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Toward Integrating Handicapped Children: A Case Study Analysis of the Educational Context and the Least Restrictive Environment

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Preface

This volume contains papers written for OTA to assist in preparation of the report *Technology and Handicapped People.* OTA does not endorse these papers. In several instances, the OTA report reaches somewhat different conclusions because of additional information which was obtained later. These papers, however, may prove valuable for readers needing more detailed or specific information than could be accommodated in the final assessment report, and are being made available for such purposes.

TOWARD INTEGRATING HANDICAPPED CHILDREN: A CASE STUDY ANALYSIS OF THE EDUCATIONAL CONTEXT AND THE LEAST RESTRICTIVE ENVIRONMENT

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FOREWORD

Technology exerts a powerful influence over the lives of everyone, making life easier, more fulfilling, but sometimes more painful and frustrating. This is especially true for people with disabilities. The appropriate application of technologies to diminishing the limitations and extending the capabilities of disabled and handicapped persons is one of the prime social and economic goals of public policy.

The Federal Government is deeply involved in programs that affect the development and use of technologies for disabilities. Congress and other institutions have been increasingly interested in how well programs that directly develop technologies and support their use have been performing. The Senate Committee on Labor and Human Resources requested the Office of Technology Assessment (OTA) to conduct a study of technologies for handicapped individuals. That study examined specific factors that affect the research and development, evaluation, diffusion and marketing, delivery, use, and financing of technologies directly related to disabled people. The problems and processes of the development and use of technologies were analyzed in the context of societal allocation of resources and the setting of goals of public policy. The main report of the study Technology and Handicapped People was released in May 1982.

This case is Working Paper #2 of the study. Working Paper #2 was authored by Nancy A. Carlson, Ph.D., of Michigan State University. A number of case studies will be published as part of the assessment, and each will be issued separately. The case studies were commissioned by OTA both to provide information on specific technologies and to gain lessons that could be applied to the broader policy aspects of technology and disability.

Each author is responsible for the conclusions of specific case studies. These cases are not statements of official OTA position. OTA does not make recommendations or endorse particular technologies. These papers may prove valuable for readers needing more detailed or specific information than could be accommodated in the final assessment report, and are being made available for such purposes.

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1. INTRODUCTION

In 1975, the passage of The Education for all Handicapped Children Act (P.O. 94-142) brought to a visible level an apparent trend in society during the 1960s and 70s. Thought by many to be a statement of national goals and perhaps a civil rights act, the law, and later rules and regulations were to guarantee the right to a free and appropriate public education for all handicapped individuals from three to 21 years of age. Further, the education was to be designed to meet each child's unique needs and was to take place in the "least restrictive environment" to the maximum extent possible with those not handicapped. The law additionally addressed safeguards for handicapped children and parents, assistance to state and local educational systems and a monitoring function.

This law, as much as any other in recent years, has had a profound effect on the public school system. To a somewhat lesser, but still significant extent, it has had an impact on families, communities, higher educational institutions, the medical field and society in general. Certainly this law has raised, to a more tangible and visible level, issues which have been pervasive for some time.

One issue, the major one to be addressed in this case study, is the bringing together of those thought to be handicapped with those who are (temporarily) non-handicapped. This phenomenon has often been referred to as "mainstreaming"; occasionally it has even been called "dumping." The word mainstream refers to "a prevailing current or direction of influence." But the use of words, particularly when they appear to represent concepts can be controversial (Dybwad, 1980). When used in the educational sense, there are often values attached. The positive value is always applied to the "normal" prevailing current. Those that are not in the mainstream are often perceived as "out of it."

But in a societal sense, there is another word that could be applied. In fact, it often is applied, and issued (perhaps erroneously) interchangeably with mainstreaming. That word is integration* and, when appropriately understood and used, may be found embedded within two other developmental processes. These three developmental processes provide the foundation for change: differentiation, integration and generalization (Jordan, 1980). Differentiation is the ability to break down both internal and external experiences into separate contrastable elements. Integration is the ability to combine these elements in a new way thereby providing new information, skills, processes, groups, etc. Generalization is the ability to utilize that recombination in other situations.

Since the law was enacted to change what existed in regard to the handicapped, it seems more appropriate to refer to the change process as

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* Acknowledgement is made of the fact that the word "integration" is often used in reference to other nonhandicapped groups. The choice of words for this discussion is in reference to processes which form the essential components of a particular technology. Differentiation, integration and generalization are, in fact, universal processes.

integration -- at the same time acknowledging the need for prior differentiation and, utimately, generalization.

This case study will address one specific context in which changes are taking place -- the educational system. In this context there are many parties at interest who must make decisions, and who both define and value particular outcomes. Decisions may be influenced by the appropriateness of supporting technology.

The match between technology and handicapped individuals in public schools is multi-dimensional. In the following pages one may find a brief synthesis of the need for and possible approach to such a match.

2. BACKGROUND

Historically, those thought to be handicapped have been, at best, isolated or segregated. The perception of deviance and/or handicap has in part come about, particularly in the Western world, because of our preoccupation with the "ideal." Those thought to differ markedly from an "ideal-type" have often been ostracized, and at times eliminated. They have not been considered a part of the "normal" continuum. It has only been in the last ten years, and primarily through legislative and/or judicial action that the handicapped have been "granted" rights that to others are considered their birthright.

Basically until the 18th century, attitudes toward the handicapped were inhumane: death, incarceration, stigma and ostracism were the norm. The 19th century was only a little better; blind, deaf, retarded and mentally ill persons were institutionalized. Perhaps they were cared for, but they were also away from the mainstream of society. The historical exception that proves the rule was provided by Johann Wilhelm Klein, whom in the 1800's advocated that blind children be educated in regular classes. But that particular direction to an advocacy effort was not repeated unti the late 1960's.

The first half of the 20th century found efforts directed toward "special education classes" primarily for the "mildly retarded." Apparently, as our society became more able to measure what was "normative," those who were perceived to deviate were felt to be better off in more specialized settings where they could receive additional help.

In 1963 however, with the enactment of Public Law 88-164 (Title III), the Federal Government began to assume more responsibility in regard to the handicapped. This act, often associated with John F. Kennedy's wish to more adequately serve the handicapped, established federal responsibility in administering programs for handicapped. The 89th Congress passed ten laws that had a major influence on the handicapped, thereby presumably assuring the continuing role of Congress in issues related to handicapped individuals. A synopsis of relevant laws enacted between 1958 and 1975 may be found in Appendix A.

During this period - the 1960's and 1970's - several other related activities were taking place. Political advocacy by Congress and varying organizations occurred with more frequency. The activities of the National Association of Retarded Citizens (NARC) in regard to rights and legal status of handicapped are particularly noteworthy. (Dybwad, 1980). In the late 60's, a period of questioning regarding the overall adequacy of "special" education was begun, spearheaded by Lloyd Dunn (Dunn, 1968). Court actions to secure specific rights for handicapped individuals became much more frequent: in particular, litigation regarding inappropriate identification and placement practices, and the need to increase special education classes and services for handicapped brought inequities to light (Diana v. State Board of Education/Cal.; Pennsylvania Association for Retarded Children v. Commonwealth of Penn.; Mills v. Board of Education, District of Columbia).

Most likely as a cumulative result of legislative precedents, advocacy, professional questioning of adequate services and court actions, Public Law 94-142, the Education for all Handicapped Children Act, was passed overwhelmingly in 1975. At that time this act was presumably seen as a solution to the most

serious problems of particular concern to parents of handicapped children in regard to their child's education. The motivation to pass the act was intense, but unfortunately was also ambiguous and disparate, resulting in not a few untenable situations.

The purpose of Public Law 94-142 is outlined in one comprehensive sentence from the Statement of Purpose section of the actual law. According to this statement, Public Law 94-142 is designed to assure that:

...all handicapped children have available to them...a free appropriate public education which emphasizes special education and related services designed to meet their unique needs, to assure that the right of handicapped children and their parents or guardians are protected, to assist states and localities to provide for the education for all handicapped children, and to assess and assure the effectiveness of efforts to educate handicapped children.

Public Law 94-142 specifically directs that certain handicapped children be served, including the 1) deaf, 2) deaf-blind, 3) hard of hearing, 4) mentally retarded, 5) multihandicapped, 6) orthopedically impaired, 7) other health impaired, 8) seriously emotionally disturbed, 9) learning disabled, 10) speech impaired, and 11) visually handicapped. The law is written so that it is clear that all special programs and services required by such handicapped students between the ages of 3 and 21 years should be provided. This mandate for services does not apply for children in the 3- to 5-year range and the 18- to 21-year age range if such requirement is inconsistent with state law or practice or any applicable court decree.

Services to be provided, as spelled out in the Rules and Regulations for the act, include 1) audiology, 2) counseling services, 3) early identification, 4) medical services, 5) occupational therapy, 6) parent counseling, 7) physical therapy, 8) psychological services, 9) recreation, 10) school health services, 11) social work services, 12) speech pathology, and 13) transportation (Federal Register, August 23, 1977, pp. 42479-42480).

This specific list of services, according to comments in the Rules and Regulations, was not intended to be exhaustive, but was included to indicate the broad scope of services encompassed in the intent of the law. "[The fact that] these various sections of the federal regulations seem to make absolutely clear [is] that the public schools must furnish all services needed to provide an effective educational program for all handicapped students" (Gearheart & Weishahn, 1980, p. 20).

How many children comprise the population identified as handicapped in the public schools? "Accurate" counts do not exist because of inter-State variance (primarily in definitions) and most estimates tend to be unreliable. Gearheart and Weishahn (1980) created a model based on percentage of the population, by disability area, from selected States. From this has been constructed a prevalence table that does give a range for those from 5 to 18.

Table 1

Prevalence of Handicapped Children in the United States

	Percent of Child Population	Number of Children ages 5 to 18*
Visually impaired (includes blind)	0.1	55,000
Hearing impaired (includes deaf)	0.5 to 0.7	275,000 to 385,000
Speech handicapped	3.0 to 4.0	1,650,000 to 2,000,000
Crippled and other health impaired	0.5	275,000
Emotionally disturbed	2.0 to 3.0	1,100,000 to 1,650,000
Mentally retarded (both educable and trainable)	2.0 to 3.0	1,100,000 to 1,650,000
Learning disabilities	2.0 to 3.9	1,100,000 to 1,650,000
Multihandicapped	0.5 to 0.7	275,000 to 385,000
Total	10.6 to 15.0	5,830,000 to 8,250,000

* Number of children based on 1962 population estimates.

This table does not account for those in the 3-5 and 18-21 year age range who are also included under Public Law 94-142. Nor does it include the population from birth to three years of age, who may be served under permissive legislation, but who generally are underserved -- especially be education. Moreover, the labels applied to those identified as handicapped (i.e., mentally retarded, crippled and other health impaired, etc.) may be arguable.

Additionally, Gearheart and Weishahn (1980) assert that only half of this population are currently receiving services. Thus, there may be 10 million or more handicapped individuals who are entitled to be served under the auspices of the public schools.

There are obvious implications when one considers those who serve within the educational system - particularly teachers. In fact, the National Education Association (NEA), the most influential teacher organization in the country, recognized the importance of the act in regard to children, parents and teachers by passing a resolution in 1978 (See Appendix B). This 16-point resolution underscores both the significant impact and complexity of school implementation problems surrounding Public Law 94-142. For example, part c) of the resolution addresses the notion that "all staff should be adequately prepared for their roles through in-service training and retraining, "while part n) mentions that "communication must be maintained among all involved parties." Regular and special education teachers were and are concerned about many implementation and evaluation aspects of the law.

Attention has not been paid solely by teacher groups, however. Parent groups and disability-related groups were instrumental in the passage of this act as well as continuing to serve in a monitoring and advocacy function. The media - television, radio, press, magazines, journals - have all provided significant coverage of this legislative enactment and resultant implementation, which has sometimes become problematic.

Since the act has at least the potential to have a profound effect on so many different individuals, what are the problems that have been discovered? What are the issues? Are there any successes? Is there, in any place, a match between the needs and abilities of those identified as handicapped and the necessary supporting technology such that the purposes and goals of both Public Law 94-142 and societal needs are ensured?

3. CURRENT SITUATION

CONTEXTUAL ELEMENTS and PROCESSES

Before addressing specific elements and processes, it seems appropriate to reemphasize the goals toward which today's technologies are being directed. These appear to be: 1) free and appropriate public education for all handicapped children, 2) emphasizing special education and related services, 3) meeting unique needs, 4) with rights of the handicapped child and parents/guardians protected, 5) within a State and local assistance program, and 6) with evaluation of effectiveness.

The above goals must be implemented within an available resource framework which includes: financial resources, informational resources, related services, support systems and training. The consequences of the application of current technology to the stated goals must also be evaluated. In general, the match between technology and the handicapped person may be considered to be "appropriate" if the outcome has little or no negative risks or consequences to the parties at interest, and at least some benefits.

Herein lies the challenge. The parties at interest are multiple. Perceptions of the needs, resources, issues, problems, and opportunities vary tremendously. They are definitely affected by the application of technology; in some cases, parties at interest may perceive that the outcome has negative risks and/or consequences and thus may judge the technology to be "inappropriate."

In addition to those identified as handicapped,* there are many other parties at interest who ultimately judge the outcomes of the integration process. At the very least, these include:

- nonhandicapped peers
- regular classroom teachers
- special classroom teachers
- itinerant (resource) teachers
- school support staff
- regular school administrators
- special education administrators
- parents/guardians of "handicapped"
- parents/guardians of "nonhandicapped"
- siblings of handicapped
- physicians and allied medical professionals
- psychologists and social workers
- transportation agents
- school board members
- volunteers

The above listing emphasizes roles that particular individuals play from time to time within the public school context. But each person involved is also an individual and the involvement of individuals brings about interactive interpersonal effects. Integration may be seen as a process of promoting the

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* Identification itself is a major issue and is covered elsewhere in OTA papers.

development of individuals, whether or not they are identified as handicapped (Hoben, 1980). Tyler's conception of individual development is offered for consideration:

> Individuality does not mean self sufficiency, and equality does not mean sameness. Because the development of an individual involves the actualization of only a small fraction of human potentialities, each of us is incomplete without other human beings. Our incompletenesses complement one another, and our uniqueness contributes to the richness of the total pattern. (1978, p. 238)

Corresponding to the patterns of individual development are patterns of process development. Three major patterns are discernible when analyzing the processes of differentiation, integration and genralization. They are: 1) exchange processes between individuals, 2) transitions within and across varying environments and 3) the negotiation of an adaptive fit or match (Carlson, 1976). Since individuals do not exist in isolation, it is critical to examine not only the characteristics of particular individuals and environments but also the exchange processes, the transitions and ultimately the match or fit of all of the above.

Exchange processes can be verbal or nonverbal. They involve varying levels and forms of communication. They are inextricably woven with present attitudes, values, knowledge and experience. Examples of specific exchange processes might include: playground interactions between a handicapped and non-handicapped child, a meeting between a parent and a school administrator and an in-service meeting for regular and special educators. Although the examples are role-related, each of these situations involves individuals, and each individual, of course, adds his/her own perspective, which heightens the potential for many, many, different exchange processes.

Transitions are also important. Environments that might be connected to the integration process include, but are not limited to: the home (which in itself implies much diversity), the school (regular class, special class, resource room, cafeteria, hallways, etc.), a bus or van or other form of transportation, a therapy situation (physical, occupational, speech, family, tutorial, mental health, etc.), a parental substitute situation (day-care, baby-sitters, extended family, or even the absence of such a situation), a medical environment (physician's office, hospital, clinic, etc.) and extra-curricular situation (scouts, clubs, church, etc.). Each environment mentioned, if one activates the imagination, contains many variables that affect individuals operating within or preparing to move across the varying environments.

Common examples of transitions are: the handicapped three year old who rides a special bus a total of four hours per day, a single parent who leaves work to drive her child 300 miles to a special clinic, an itinerant resource teacher whose case load of 24 handicapped children involves 20 schools and driving 100 miles a day. Transitions are not felt to be easy for anyone - child or adult. And yet they are a necessary part of any developmental process, perhaps even more so when the proces of integration is examined.

One further element/process must be described: evaluation or judgment. As the goals and implementaiton processes may be top-down or bottom-up, so also are

judgments. Top-down procedures tend to be administrative and broad in perspective. In regard to the integration process, the criteria for top-down judgments have been political, moral, economic and legal, and have evolved from Federal, State, and local mandates. Bottom-up procedures, on the other hand, tend to be functional, pragmatic and much more specific in perspective. The criteria for bottom-up judgment include usefulness, efficacy, convenience and interest; teachers, parents and the students themselves formally or informally render opinions. Judgments from these two perspectives are not always in accord; i.e., what may be convenient for a school principal in terms of placement, may not be in the best interests of a particular handicapped child and/or the regular classroom teacher.

The negotiation of an adaptive fit or match, therefore, becomes a very critical element. With so many parties at interest, with so many environments and variance in exchange processes and transitions, it becomes necessary to examine what the outcomes of negotiation might look like. First of all, at least conceptually, negoatiation is an ongoing process. It is dynamic and ever-changing, not static or irreversible. It leads to development and not just survival. It involves situational perceptions on the part of the parties at interest, both positive and negative. Finally and ultimately, in regard to the integration process, it addresses the "match" between the technology needs of a particular individual identified as handicapped and the ability of the system (members) to develop and deliver needed technology given available resources. Rather than examples, in succeeding pages a few vignettes are presented which may help to illustrate the complexity of this type of negotiation and the potentials for a match.

The brief vignette which follows is a compilation of instances and is therefore not a "true story." It is told for illustrative not definitive purposes. It may serve to personalize the preceding information.

Illustrative Cases

Sarah is seven years old and has just moved to the Denver area with her father, mother and three siblings from a small town in Iowa where she had successfully attended an integrated preschool and public school kindergarten. The family is unable to move into the home they are having made accessible for at least two months and have been living out of suitcases in a nearby motel. During the third week in September, all four children went with their mother to enroll at the neighborhood school.

Sarah walks on crutches and wears diapers all the time, for she has meningomylocele -- an incomplete closure of the spinal column. The teacher in the regular classroom in which she was placed is due to retire at the end of the year. The teacher notices that Sarah appears to have difficulty adjusting, but really doesn't have too much interest in trying to help, even if she knew how. There is a special education resource teacher in the school who was trained to work with children who are learning or emotionally handicapped, but who has had no experience with physically handicapped situations. Sarah has slightly above average intelligence and no discernable learning problems.

However, since under the law, Sarah obviously qualifies for related services, a meeting is called to develop an Individualized Educational Plan. At that meeting, the physical therapist noted that Sarah was having great

difficulty with crutch walking. (Someone suggested that the change to a higher altitude may have had something to do with the difficulty.) The recommendation was to have Sarah use a wheelchair at school. One was available that fit perfectly and was in good condition.

Sarah's parents objected strenuously. They said Sarah loved being able to be upright and needed mobility to prevent bladder infections. School personnel held out for the wheelchair. A stalemate developed, and the meeting was about to adjourn without resolution when the building principal walked in.

After having been briefed, the principal offered the following comments and suggestions: 1) that his own daughter, Amy (also a first grade student) spend more time with Sarah. Amy's best friend had moved a few weeks before, and Amy also was feeling a bit lonely, 2) if the relationship developed as he thought it would, then Sarah could be placed in Amy's class, which was quite a bit closer to the therapy area, 3) that perhaps a referral to one of the children's hospitals would be in order -- they seemed to be doing a great deal of work with bowel and bladder incontinence, 4) that he knew of a rental house in the area that would be available until the family could move into their own house and 5) that perhaps Sarah could use the wheelchair to get back and forth to the playground, since she did seem to be more fatigued following that long trip. (First graders had to go to the far side of the playyard).

The principal's recommendations were accepted and the meeting adjourned with smiles all around. A successful negotiation of an adaptive fit had been accomplished. The needs and resources of individuals and environment had been matched.

Sarah's story does illustrate a few contextual determinants of successful application of technology as we define it; i.e., to serve a practical purpose and to reduce or eliminate functional limitations. Seldom is negotiation or compromise simple and it is <u>always</u> individual.

To be more specific, on the surface the issue appeared simple: whether or not to use a wheelchair -- a relatively unsophisticated and apparently technological question. In actuality there are many, many perspectives submerged in that short scenario. In this case they could be categorized as: <u>medical issues</u> (bowel and bladder incontinence, therapeutic management, etc.), <u>educational issues</u> (teacher close to retirement and probably "burned out," resource teacher lacking knowledge of disability area, first graders assigned to the far side of the playground), <u>family issues</u> (major transition just occurred, lack of a secure and accessible base from which to move) and <u>individual issues</u> (degree to which loneliness, coupled with altitude problems were conducive to extreme fatigue; the move into a wheelchair possibly being perceived as a step backward, a developmental need for a seven year old to have a close friend.)

The fact that the building principal assumed a facilitative role in the negotiation process also highlights the actual complexity of the situation. Each of the participants perceived a part of the problem; no one saw the whole. In many cases the negotiation process can be facilitated by individuals in administrative roles; unfortunately, that is generally not the case. Elementary and secondary principals typically have received extremely little exposure to special education issues, although they believe it is an important and increasingly time-consuming aspect of their job. (Davis, 1981).

What appears to be a critical element in the process is illustrated by the principal's actions - i.e. assuming the role of a "boundary crosser" (Stearns, Green & David, 1980). This is an individual whose role permits or requires bridging traditional barriers between the various contexts. Those contexts previously described as potentially involved in the integration process are the same contexts which have, over the years, erected boundaries.

One of the most obvious and blatant boundaries exists between regular and special education, but other boundaries exist as well: between home and school, between administrators and teachers/staff, between medicine and education, between local, state and federal programs, between public and private sectors, etc. In each of these situations, barriers to communication have been erected and people within one boundary quite often do not talk to those within another boundary. There are, however, beginning to be more individuals who perceive the crossing of boundaries to be facilitative of institutional and individual development (Stearns, et al., 1980). There are even agencies or projects designed to coordinate or regularly cross boundaries (Albright, Hasazi, Phelps & Hull, 1981; Carlson, 1979). What becomes important is a belief in coordination and communication such that barriers to potential individual and institutional development are reduced, bypassed or eliminated.

The following vignette is again illustrative, but not definitive. It involves the same resource teacher who was mentioned in the last story about Sarah, but this time she is able to take a more active, knowledgeable and perceptive role. She is, in effect, a "boundary crosser."

That resource teacher, Mrs. Horne, is working with a fourth grade boy named Harry. Harry and Mrs. Horne have been at this particular school for the same number of years, and Harry has been receiving special education services the entire time. Harry has a significant learning problem that interferes with the more typical processes of development. He is able to learn with directive one-to-one attention, but that has not been possible in the regular classroom. As a result, he spends half the day with Mrs. Horne and her aide. During that time he completes most of his adapted math, science, reading and social studies assignments. The remainder of the day he spends with his regular classroom peers in gym, lunch, art, music and recess. Harry is almost eleven and very, very good in art and music. Recently, he has begun to be a problem in the lunch room and on the playground and Mrs. Horne is very worried. Harry's mother is planning to remarry shortly and Harry does not get along with his stepfather-to-be.

Mrs. Horne decided to have a re-evaluation meeting to see if a modified plan for behavioral adjustment might be worked out in addition to the academic plan of record. Harry's mother is unable to attend the meeting. Before the meeting, Mrs. Horne had a few minutes for a break and in the staff lounge heard from the kindergarten teacher that he (the teacher) was looking for someone to help his students with music and art activities. Mrs. Horne began to conceive and implement the "perfect plan."

Two months later, Harry was helping a small group of kindergarten students both in the morning and in the afternoon with music and art. he really was very good at helping, and began to learn the skills of organizing and planning in order to better teach the younger children. The skills he learned in order to "teach" helped with his own academic work, and soon he only had to use the

resource room three days per week. Occasional talks with the kindergarten teacher convinced Harry that men sometimes behaved differently in relationships and maybe his stepdad wasn't that bad after all. His concept of identity improved; so did,his lunch room behavior.

Harry will need special education services in the future. He may always need special help. but this particular application of technology in which the resources of the system were matched to the needs of a specific handicapped individual in an appropriate manner helped to bypass one more obstacle in the continued development of an integrated child.

There are both developmental issues and varying technologies embedded within the story above. Three specific and relevant issues are: the lengthy period of time that student and resource teacher have been working together, although there is probably a comfortable relationship established, Harry may not be repeatedly and/or sufficiently challenged; that Harry is at an age when a major transition is about to take place, from pre-adolescence to adolescence, puting his physiological and pyschological process in transition; and the remarriage of his mother which is a family developmental issue and a major transition.

The "appropriate" supportive technologies implemented are as follows: cross-age teaching, whereby an older child helps younger children (and vice versa); emphasis on strengths (music and art) as well as remediating weaknesses; reorganizing intervention on the basis of improvement (increased organizing and planning skills) as well as developmental needs (for more regular class time); using an appropriate and reinforcing model (male teacher). All of these techniques have been found to be extraordinarily helpful in facilitating learning and decreasing time spent in nonappropriate activities.

But the most relevant point is the boundary crossing that took place - in the teacher's lounge. The resource teacher took the initiative in discussing with the regular class teacher a rather unique, but very individual program. Certainly the resource teacher took a chance, but risk-taking is an element of most creative or unique endeavors.

Summary

The major contextual elements and processes of public school integration have been described. These are: exchange processes, transitions and the negotiation of an adaptive fit. Additionally, those individual roles constituting parties at interest have been listed and referred to. Bottom-up and top-down judgment or evaluation are also discussed Finally, two vignettes are presented which illustrate the above elements and parties in the specific public school context and which illustrate the role of the boundary-crosser.

Although the previous section contains a theoretical model, there is reference throughout to issues. There are indeed many issues that have surfaced and have become increasingly visible in the past few years. They are described in the following pages. To make the broader issues more specific in focus and context, an example has been included. Again, the examples are illustrative, not definitive.

ISSUES

The concepts which are embedded in Public Law 94-142, particularly "least restrictive environment" and "meeting unique needs," are challenging. Challenge encourages development through stages, the basic unit of change. Change is taking place in the schools, and in the differentiation process which precedes integration and generalization, significant issues have emerged. What follows is an unranked partial listing of issues which appear to be pervasive within the public school context as it meets or attempts to meet the mandates and challenges of the Federal law. These issues have been differentiated between a broad, primarily sociological category and a more specific and programmatic category, roughly corresponding to the top-down and bottom-up categories mentioned earlier. Many of the issues are discussed elsewhere in the OTA assessment.

Broad Issues

The Issue of Context. Each situation, each classroom, each school and each community provides a unique blend of charcteristics and multiple variables. The multiple variables provide a "frame" for each interaction or event. This very contextual diversity could support the continuum of alternatives proposed in the law. By nature, however, systems are usually intolerant of extremes of diversity, and individuals who function in many contexts apparently have difficulty.

> EXAMPLE: An itinerant resource teacher was describing her difficulty in serving children in two "different" schools. In one school the halls and classroom were cheerful and friendly, the teachers were open and often stopped in the resource room, the principal knew most of the children by name, there were few discipline problems and the bus drivers waited for kids who forgot their gym shoes. In the other school, the halls and classrooms were gloomy, the playground bare, the teachers lounge was filed with gripers and little humor could be found, the principal never left the office and refused to meet with parents, and the bust drivers left school early. This particular resource teacher felt she was fast becoming schizophrenic! Small wonder. The contexts were radically different and in attempting to be an adaptive boundary crosser she was suffering greatly.

The Issue of Similarity and Difference. Even as institutions have difficulty with diversity, so does our society have difficulty with deviance (Gliedman & Roth, 1980). Acceptance of handicaps as an aspect of diversity is far from an accomplished fact (Sapon-Shevin, 1978). Assessment and programming is directed at "normalization" -- i.e. prevailing cultural and social standards. While we can perhaps understand this, it remains an issue.

> EXAMPLE: Several years ago a team of educators and therapists were helping to prepare a 4th grade boy for integration in the regular classroom which happened to be on the second floor. Cognitively and socailly he was compatible with his peer group; physically he was not. He walked with crutches. Nevertheless, the only obstacle to total acceptance in the regular classroom appeared to be managing the stairs quickly such that in the event of a fire (or drill) his

progress out of the building would be equal to others. This young man and his physical therapist worked for weeks on the stairs with a stopwatch always present. Finally, results in hand, the therapist went to the principal to state that the boy routinely navigated the stairs in 15 seconds (bettering several other 4th graders.) He was ready for "integration." The principal paled significantly, dropped her voice and said, "He can't go into the regular classroom upstairs." "Why not?" said the therapist, "He can go up and down the stairs quickly enough." In an even quieter voice the principal said, "But he'd stand out too much from the other children." ....Barriers are not always physical....

The Issue of Responsibility for the Goals for the Population Identified as Handicapped. While the goals may appear to be easily identifiable, the enormous complexity in specification, implementation, evaluation and funding has tremendously altered what may have been the original intent of Public Law 94-142. Educational, vocational and social goals for handicapped persons have become intertwined with health, mobility and communication goals. The question of public school accountability for the multiple goals is clearly an issue.

The confusion, uncertainty, ambiguity and frustration with goals for handicapped persons on the part of all individuals and institutions involved is really not surprising. The complexity of motivation surrounding the original legislation is well known. Expectations on the part of parents and legislators regarding what Public Law 94-142 could accomplish were both unrealistic and far too optimistic. The reality is a far cry from what some had hoped.

EXAMPLE: One of the services to be provided, according to the Rules and Regulations for the act, is parent counseling. A school psychologist in a small school district believed that a particular family would be helped by counseling. As he relates the story...

> In the past we used to frequently refer individuals to the mental health facility for individual or family counseling. This year I made a very informal recommendation, saying "this might be a help to your family." The school district received a bill for $200. They went ahead and paid the bill simply because that was less costly than going to a hearing. Despite the fact that most parents wouldn't think of sending the district the bill, we're going to be very careful of the way we make referrals in this county.

The Issue of Appearance Over Substance (Watzlawick, Weakland & Fisch, 1974). Most resources, including most technology, are used for conspicuous programs that show "quick" "hard" results, such as the large numbers benefiting from the program, but do little to actually integrate the children involved. Resources become diffused between the need of the program for results and the need of the children for specific help instead of being focused on the long term helping of the childrn toward integration.

EXAMPLE: The integration of handicapped in shcools today might suggest that children will be quietly assimilated into the regular classroom, with the resultant decrease in numbers of those

identified as "handicapped." But funding patterns in place require that: a) more handicapped children be identified and b) more handicapped children be served. If funding levels are to be kept constant, more children must be continually involved and the system becomes overburdened. Stretched resources cannot accomplish the true integration of the children and real positive change is difficult or impossible.

The Issue of Service Delivery. To provide services to individuals identified as handicapped, a variety of disciplines, agencies and institutions are involved. Where coordination and cooperation of individuals from these multiple adjunct services might be helpful (Nadler, Merron & Friedel, 1981), what more typically occurs is a territoriality scramble -- i.e. "my domain is more important than yours."

EXAMPLE: One young mother, after a week of listening to professionals tell her what she "must" do to help her two year old severely and multiply impaired child, added up the number of hours per day that it would take her to accomplish the stated objectives. She stopped adding when she reached 36 hours. She stopped listening to professionals at the same time.

The Issue of Mandatory Versus Voluntary. Most of us, from about the age of two, tend to resist "have to" rules and regulations. It is part of human nature to react more positively to choice or alternative situations. Nevertheless, legislation pertaining to the handicapped has been framed as "mandatory." What might have been seen as a "challenging choice" is now a "horrible obligation."

EXAMPLE: Regular teachers are not given an advance opportunity to agree to accept a child or to create a classroom atmosphere receptive to a particular handicapped child; instead they are told which child(ren) will be "mainstreamed" and often experience a feeling of being "dumped on."

The Issue of "Labeling" (Hobbs, 1975, Jones, 1972). Although categories of objects and events help to organize programmatic responses, many people feel indiscriminate categorization of people has led to pejorative thinking and irrational misconceptions. Categorical thinking has definitely fed stereotypical thinking, i.e. "all handicapped are _____," "all mentally retarded will _____," "all physically handicapped need _____." Thinking and reacting stereotypically will not help us learn about individuals who may have a handicapping condition, nor will it help us to learn about ourselves. (Carlson, 1976; 1979).

EXAMPLE: Those categories which may describe known and predictable entities (i.e., mildly mentally retarded, physically handicapped, developmentally disabled, speech and language impaired) appear to arouse less fear and ambivalence than categories which seem to describe unknown or unpredictable entities (i.e., learning disabled, emotionally impaired, autistic, etc.)

The Issue of Parental Responsibility. In many ways this issue is an outcome of some of the previously mentioned issues: territoriality, goals, contextual openness, individual variance, voluntarism, etc. What becomes

manifest, however, is a push for those functioning in the role of parent to utilize their "rights and responsibilities" without concurrent support and adaptation to family needs on the part of professionals. Additionally, the issue of children's rights has become a complicating factor in decision-making. "Parents" have thus come to be perceived as adversaries (Stearns, et al., 1980); their recourse has been the judicial system, which has further antagonized those attempting to provide services.

EXAMPLE: Occasionally, and more frequently lately, parents bring a lawyer or an advocate with them when they meet with professionals to decide educational placement and planning for their child identified as "handicapped" (Stearns, et al., 1980)

The Issue of Negotiation. Negotiation, which could become a problem solving process, contributing to the resolution of many of the above issues, is a little understood or appreciated phenomenon. Negotiation of an adaptive fit requires attention to aspects of the socio-ecological model. Attention must be paid not only to the individual identified as handicapped, but also to the surrounding contexts, the exchange processes and transitions.

EXAMPLE: Programs described as serving a "rural" population tend to be more adaptable in nature, particularly when working with "low incidence" populations (i.e., visually impaired, hearing impaired). Parents are often involved and supported, professionals tend to be more flexible and interested, administrators become creative and even the bus drivers become concerned with successfully negotiating transitions.

Obviously, all of the broader, sociological issues have not been addressed. Attitudes toward the "handicapped" and perceptions of what handicap is and means are an overriding issue. In part, this is covered in a discussion of similarities to racial integration in succeeding pages. Other parts of the OTA assessment address this issue as well. But what has been briefly presented are some of the numerous and sometimes amorphous issues that face, not only handicapped individuals, but those that choose to attempt to provide technology appropriate to individual needs. There are, however, a few more specific and definitive issues that might be analyzed.

Specific and Pragmatic Issues

Although the issues involved in the integration process are many and complex, a focus on problem resolution demands that specific and pragmatic issues be addressed. Given attention both to relevant theoretical frameworks and to existing research, the following issues appear to be the most feasible to address. They are also the most likely to be effective in creating positive change over the long term. These specific but diverse issues are neither categorized nor heierarchically arranged, but they are stated positively, as if the potential for change does exist. They suggest attention be paid to the following areas:

Development of Coordinated Adminstrative Support Systems. Those who are charged with educational and legal responsibility for planning and implementing programs are given little or no support. They tend not to involve in decision-making those they work with or serve (Stearns, et al., 1980). And yet,

participative and coordinated management (of the integration process) holds the greatest likelihood of success (Bennis, 1966; Ryan, 1976). (School) "Principals in particular may serve as facilitators and innovators of major organization changes in structure, materials, role relationships, knowledge and attitudes..." (Sivage, 1980).

Teacher Development. Institutions of higher education and in-service programs at the district level have tended to focus primarily on product issues related to children (grades, progress, outcomes, objectives, etc.) Attention is directed to curriculum and materials, sorting and selecting, (Sapon-Shevin, 1978) and not the processes of learning and development. Those teachers who have come to appreciate the developmental framework have been able to apply the precepts not only to children, but to adults as well -- especially themselves. Teachers also are learning and developing. This must not only be recognized but valued.

Development of a Supportive Peer Group Context. By age five, most children are able to differentiate and categorize objects, events and people with reasonable accuracy (Piaget & Inhelder, 1968). Most enter public schools at this age. The interaction of these two events has led, in the case of integration, to a phenomenon that has been called "scapegoating." It is pervasive and no amount of authoritarian admonishment appears to diminish it. Consequently, most handicapped children in the regular classroom throughout the school-age years are unlikely to find support from their peer groups (Johnson & Johnson, 1980). On the other hand, during the very early years, children can learn to differentiate without negative value judgments (Carlson, 1979). Three year olds are curious about differences and want to learn about what it's like not to be able to see or hear or move as well. But then they are curious and open about everything in their environment. This openness and curiosity without judgment makes the idea of successful integration during the preschool years an exciting alternative.

In addition to the prospect of early integration as a step in the direction of positive acceptance, another process has been receiving attention (Johnson & Johnson, 1980, Sapon-Shevin, 1978). In this process, programs, policies and curriculum are constructed to enhance a positive value for difference (Carlson, 1979) and to build on cooperative efforts between handicapped and non-handicapped (Johnson & Johnson, 1980). The success of the programs is outstanding, but efforts to create change in these directions has not been overwhelming.

Multiple, Coordinated Alternatives at the Early Childhood Level. The preponderance of developmental opinion suggests that a great deal of growth and development takes place from birth to age five. Many feel that this period is the optimal period for prevention, intervention or mediation of problems or potential problems. Indeed, there has been a proliferation of programs and services directed at children of these ages. However, these programs and services are most often offered in isolation, not in coordination with other programs and services.

For instance, at the local, state and federal level, educational systems have been mandated responsibility for the young "handicapped" and "disadvantaged" child, but other uconnected systems (social services, mental health, public health, etc.) also have responsibility for these groups as well

as for those who are non-handicapped. The integration of handicapped and non-handicapped children at the early childhood level has been demonstrated to be benificial socially and educationally. Nevertheless, the mechanisms for achieving this end are not easily accomplished, given the multiple, diverse and sometimes competing agencies and institutions.

Development of Comprehensive Evaluation/Research*. Today we have available evaluation and research designs that are applicable to field-based sites (naturalistic settings) and not only clinical settings. We have available assessment procedures (observational analyses) and instruments (time-sampling behavioral charts, etc.) and we even have appropriate statistical analysis (LISREL). Unfortunately, evaluation/research is neither understood nor appreciated, particularly by those working in the "real world" and not in universities. Additionally, it takes a great deal of effort to convince people (especially teachers and administrators) that evaluation/research is to "find out" and not (necessarily) to "judge."

Prevention of "Burnout" (Cooper & Marshall, 1976; Maslach, 1978). While educators have been talking about professional "burnout" for quite some time, today the phenomenon is much more widespread (Weiskopf, 1980). Most truly gifted and able professionals who care deeply about those with whom they interact (patients, clients, students, etc.) tend to reach overload status within two to five years. In fact, if the phenomenon were closely examined, we might find that those in parent roles and those in student roles "burnout" equally quickly (the disenchanted.) Since legions of the most qualified and caring individuals are deserting the ranks in droves, efforts should be expended to devise creative solutions.

One alternative (but by no means a panacea) is "time out" (Weiskopf, 1980). University professors occassionally receive sabbatical leaves; in classrooms, children are sometimes allowed to take time out (often, however, it becomes a negatively valued period and place); parents of handicapped children utilize respite care facilities when avaialable. We can view time "away from task" as creative, recuperative time. Perhaps we ought to plan for it more often.

Another alternative in preventing burnout is to increase the number of choices and, in some cases, to reorganize directives such that a choice to participate or not is an option (Carlson, 1979). The number of mandates of "lay ons" has made highly qualified and responsible professionals begin to feel dysfunctional. Motivation and eager interest tend to be more highly correlated with quality performance than any amount of mandates, regardless of age or ability, and organizational motivation affects compliance with an external mandate (McLaughlin & Berman, 1976).

Increased Resource Availability. In this age of rapidly expanding technology, the amount of resources available to most schools and the adequacy of existing resources are pitiful. This lack of availability refers to both human and material resources. Some of the inadequacy comes from limitations in financial resources, but it appears that an even greater amount may come from a lack of information regarding appropriate technology. Effective information

*research/evaluation - used interchangeably; both mean "to find out"

networks in regard to technology are almost nonexistent. Information about programming options seldom reaches implementors. Teachers, quite often, "teach as they were taught" - in some cases 40 or 50 years ago. Demonstration programs in which highly sophisticated, effective, innovative technologies are individually implemented, often become isolated from those who could best learn from them. In short, although quality human and material resources are not abundant, those that are available and also are effective and appropriate are under-utilized and under communicated (i.e. technology transfer).

Clarification of Roles and Responsibilities. Many of the ideas presented thus far have implied if not stated the necessity to take a broader perspective in regard to the match between technology and handicapped individuals. It therefore seems almost paradoxical to suggest that increasing specificity in regard to roles and responsibilities might be an option. However, the data suggest (Stearns, et al, 1980, Bensky, Shaw, Gouse, Bates, Dixon & Beane, 1980) that many individuals are rapidly becoming dysfunctional as a result of ambiguity. Just as the approach/avoidance dilemma (Dollard & Miller, 1950) creates uncertainty and frustration, so also does ambiguity in regard to roles and responsibilities. Again and again the lament is heard from individuals involved in the integration process: "Just what is it I have to do? Tell me, explain it to me, so that I can do it." The frustration and ambiguity in part has reinforced professional isolation, dissipated advocacy efforts, increased confrontations, precipitated nervous breakdowns, and decreased creative risk taking. Clarification to help resolve ambiguity may not be sufficient, but it appears to be necessary.

Summary

The information just presented has been focused on issues, both general and specific. Not all of the issues can be "resolved," since they become issues as a result of perspectives, and varying perspectives of individuals will be ever with us. Nevertheless, issues such as context, difference, goals, change, delivery of services, labeling, choices, and negotiation can at leat be discussed openly. And more specific issues such as administrative, staff and peer group support systems, teacher development, coordinated early childhood efforts, evaluation/research, "burnout," resource availability and decreasing ambiguity, may even be resolved, at least at some level.

Given the issues, is there any way to address the question of the current status of handicapped people in regard to technology? What are the dimensions of the situation in regard to individuals who are the responsibility of the public schools? Is technology more advanced in some areas and not others? The following pages may shed some light on these questions as they apply to integration of handicapped individuals within the educational system.

STATUS OF HANDICAPPED INDIVIDUALS IN REGARD TO TECHNOLOGY

In order to conceptualize status, it is important to first note that, at best, we are applying a static overlay to a dynamic process. In fact, there are many dynamic or developmental processes occuring along many continuums. On one continuum are handicapped individuals from birth to 21 -- i.e. the age group which intersects with the public school system. On another continuum are the technological capabilities of the particular systems which serve this population within the educational domain. On still another continuum are the individuals

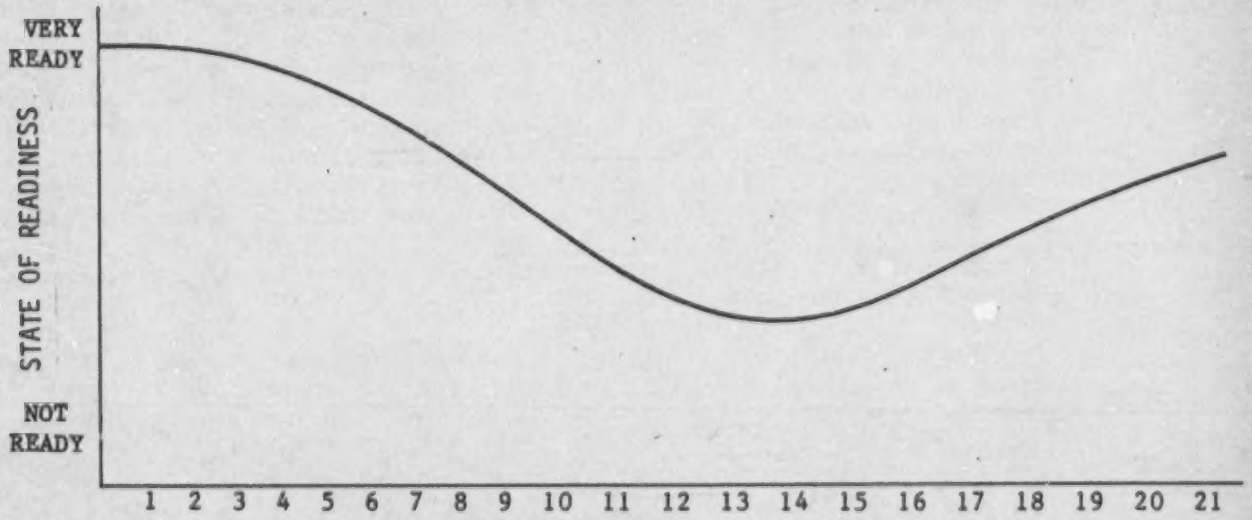
who constitute the peer group with whom some of those identified as handicapped may be integrated. It is certainly possible to further specify continua, but our attention must first be directed to the above.

Additionally, it is almost impossible to gain a clear picture or status of actual implementation of integration. While information exists and will be referenced as necessary, data are insufficient at present. What is possible to do, is to conceptualize a state of readiness, i.e., all things being equal, when handicapped individuals are most ready to be integrated and equally importantly, when are the systems, including individuals who are a part of the systems, at or near a state of readiness?

The information presented in the following pages reflects both theoretical and experiential perspectives. The framework is developmental and into this framework has been woven a partial "state of the art" report in regard to system technology. It is important to note, however, that this overview is applicable primarily to the United States, and not to other countries.

Figure 1 suggests how a state of "readiness" for integration as applied to "normal" individuals could be conceptualized. In this graph, those individuals most ready are also the youngest. Those next most ready are close to adulthood, while those in middle childhood - particularly preadolescence and early adolescence - are least ready. From a developmental perspective, this makes sense.

Figure 1
State of "Readiness" for Integration as Applied to "Normal" Individuals



Chronological Ages of "Normal" Individuals

The early years, from birth to age four or five, are years in which a large portion of learning, particularly problem solving, is thought to occur (Bruner, 1972; Bruner, Jolly & Sylva, 1976). These are also the years in which a major number of schemes are formed, primarily by the processes of assimilation and accomodation (Flavell, 1963: Furth, 1969, Piaget, 1970, Paiget & Inhelder,

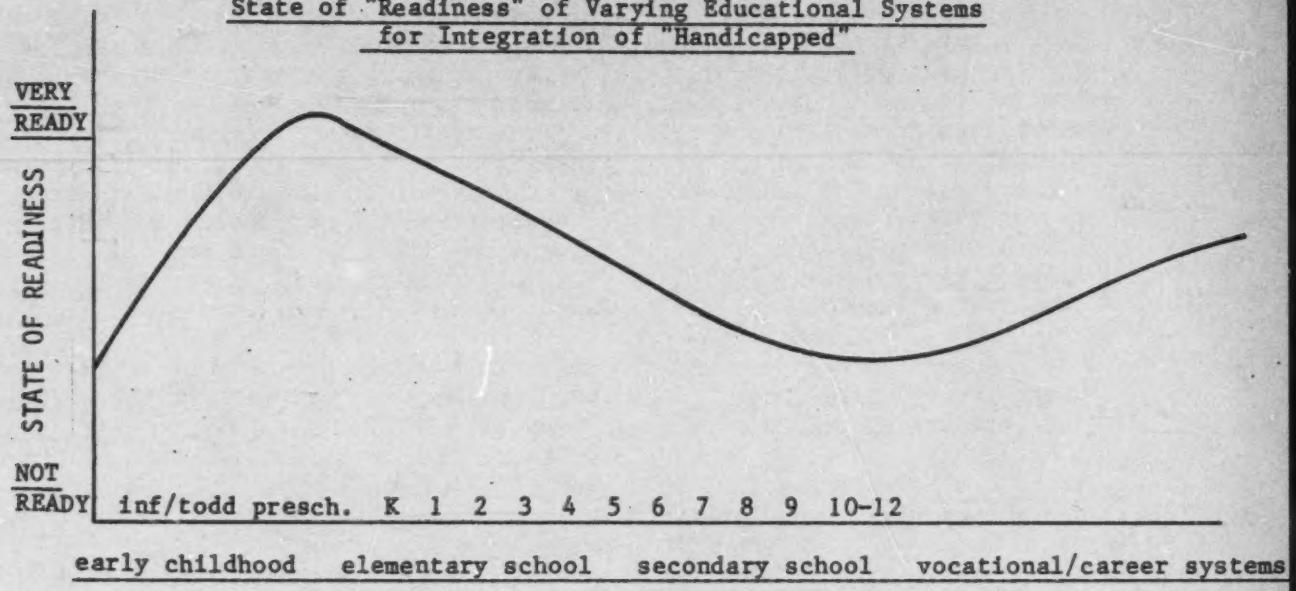
1968). Assimilation and accommodation parallel the processes of differentiation and integration and thus it is not surprising that very young children are the most ready to participate in the process of integrating those thought to be handicapped with those who are not. In young children, the integration process facilitates: acceptance and value for difference (Morgan & York, 1981); altruistic behavior (Rheingold, Hay & West, 1976); learning how and when to help (Morgan & York, 1981), and higher expectations (Meisels, 1977). Young children are not usually "cripple kickers" (Caldwell, 1973), although Caldwell's estimate of age seven may be too old. Children from age five can, and do, shun, denigrate and practice hurtful name-calling (Morgan & York, 1981; Levitt & Cohen, 1975; Carlson, 1979). Overall, there is a great deal of evidence to support the idea that during the very early years (i.e. ages two to four) of "normal" development, the state of readiness for integration is at its greatest height (Rieke & Carlson, 1980).

That readiness appears to be in marked contrast to middle childhood and preadolescence - years which comprise Piaget's period of concrete operations. Cognitively and emotionally, the need for sameness, security and stability are paramount. The peer group becomes increasingly important; categorical thinking predominates. That which is different and cannot be categorized in a positively valued system is rejected or ignored. When one reflects on the process of development, it is not surprising that most of the research indicates that integration, from a peer group perspective, is successful (at the elementary and junior high school level) only in a few carefully orchestrated instances (Johnson & Johnson, 1980).

It is not until late adolescense, the period before entry into adulthood, that developmental parameters may again be more permeable. A young person preparing to enter the "real world" becomes more aware of the larger society and somewhat less dependent upon support from a homogeneous peer group (Erickson, 1963). In addition, the ability to carry out systematic reasoning independent of particular content - formal operational thought - is considered the high point of human cognitive development (Inhelder & Piaget, 1969). Moral reasoning (Kohlberg, 1969) may also have reached higher levels, facilitating more acceptance of individual differences. At least theoretically, late adolescence may be another optimal period. Thus "normal" individuals at both ends of the chronological and developmental age continuum are most ready to participate successfully in the integration process.

Figure 2 displays the varying educational systems into which an individual identified as handicapped might be integrated and suggest the different states of readiness of these systems.

Figure 2
State of "Readiness" of Varying Educational Systems for Integration of "Handicapped"



Educational Systems Into Which Handicapped Individuals Might be Integrated

In order to evaluate the state of readiness of a particular educational system, there are at least six components which can be included: 1) type of school organization, 2) type and amount of administrative support, 3) resource availability, 4) developmental competence of regular class and special education teachers, 5) openness and flexibility of the system and 6) connections to other environments. A closer look at these factors across educational systems might yield the above profile.

Type of School Organization. The peer group context into which a handicapped individual might be integrated is usually considered a "regular class," but the regular class differs markedly at the varying educational levels.

In early childhood, the most common environments are either nursery schools or day care centers. Typically nusery schools hold classes two-three hours a day, three or four days a week. Teachers may or may not be state certified or licensed by educational agencies, but as with day care centers, they are usually licensed by state social services agencies. Classes are small (generally 14-18 children); children are usually not enrolled until age 2-1/2 and the curriculum is child centered and predominantly individualized. Staff-child ratio is 1:5 or 1:10, usually no more. Quality day care centers are similar, although classes may be larger, and hours are usually much longer (7 a.m. to 6 p.m.). Nursery schools do not typically hold summer programs, although day care centers are often open year round. Infant and toddler classes and programs are virtually nonexistent. While the smaller classes and better staff: child ratio are felt to be advantageous to children, conditions are generally less than ideal, and teacher/staff pay is extraodinarily low.

In the elementary school, usually comprising kindergarten to fifth or sixth grades, classes are in session approximately five to six hours per day, five days per week. Half-day kindergartens are the exception to this standard. (NOTE: Kindergarten, traditionally thought to be a transition class, does not really fit in either the early childhood or elementary school "formula." Many kindergarten teachers and children feel "left out.") Teachers, both at elementary and secondary levels, must be certified by the state education agency. Classes in early elementary (kindergarten through third grade) are taught by the same teacher, but by fourth grade, a curriculum emphasis (math, science, language arts, etc) often means multiple teachers for any one child. Class size is usually 25-35 and very seldom is there an aide. Instruction is centered around subjects and tends not to be indivdualized.

At the secondary level, the emphasis is almost totally on subject matter areas from middle school (junior high) through high school (Heller, 1981). Teachers are specialists in singly subjects. Class size may be quite large (35-45 students) and there is an almost total lack of individualization. Given four to five classes a day with well over 100 students per teacher, this is understandable.

Vocational educational programs, which run concurrently with high school and also go beyond, do tend to be more individualized. Classes are smaller, but also are more prescribed - i.e. train for specific work place skills and/or jobs such as filling out applications, cosmetology and pipefitting.

Type and Amount of Administrative Support. In general, as the age of the child increases so also does the distance from the administrator. An early childhood administrator will often be found in the classroom guiding the teachers or aides; a high school prinicipal, enmeshed in paperwork, is seldom found outside the office. In early childhood, teachers, administrators, parents and children discuss "limits" -- guidelines structring classroom behavior. In high school, staff enforce rules, sometimes "codes," with nonadherence leading to reprimands, suspension or dismissal. An early childhood administrator seeks and finds mutual support from staff. Administrators at other levels often feel isolated and thus withdraw from giving (and ultimately receiving) any type of positive support. Elementary and vocational administrators fall somewhere in the middle of the continuum of supporting and supported administrators.

Resource Availability. Most early childhood programs run on very, very limited budgets. If an average cost per pupil per year in the public schools is $2800, in early childhood, it is approximately one-half that. Little material resources are available to young children - a center may have one filmstrip projector, but will be unable to show a 16 mm movie (if one were donated). These centers are, however, rich in human resources. Parents may volunteer to donate time and energy to paint the walls, construct a play yard or mend toys. Fund raisers such as bake sales are common, and frugal use of scarce resources is the rule.

In comparison, the opposite has been true at other levels. Libraries are common in junior and senior high schools and audio-visual equipment plentiful. Each child has at least one book for each class - even if it has to be used again the next year. Although material resources are close to sufficient, human resources are not. There is not always someone available to guide a child

through the new book just received in science class, and parental volunteers for field trips are uncommon at best.

Developmental Competence of Regular and Special Class Teachers. The notion of increasing professional competence in the teaching role has spearheaded the offering of additional training/educational experiences. In part, these educational experiences (conferences, in-service training, graduate degree programs, etc.) have helped to decrease what was once perceived as a dichotomy between regular and special education teachers. Additionally, newer teachers appear to be interested in learning more about individual differences. This has led, in many instances, to a willingness to share ideas and information regarding handicapped persons across the "boundaries" of regular and special education. Public Law 94-142, with all its rules and regulations, may also have helped to increase communication in regard to handicapping conditions.

Still, teacher willingness to learn new things and adapt to new situations - presumably part of developing increased competence - has been less than expected. Teachers working with very young children and those in special education roles appear to be more willing and more adaptive, while those working with students who have been a part of the educational system for a long time have had a harder time overcoming traditional concepts. For regular classroom teachers, educational experiences in regard to handicapping conditions should include: general knowledge as well as specific information about particular children; supported experiences with handicapped individuals and attention to potential attitude shifts (Clapp, 1979).

Openness and Flexibility of the System. As has become apparent from this discussion, openness and flexibility among staff are generally inversely correlated with age of children served. The younger the child, the more openness is likely to be found to ideas, innovations, negotiation and human technology. Elementary and secondary schools tend to be far less open, with little boundary crossing evident (Stearns, et. al., 1980). Rigidity, rather than flexibility, is the hallmark of the majority of public schools. Vocational systems are less open and flexible than early childhood, but in general, are a bit less institutionalized than the public schools. Those systems and classrooms which facilitate cooperation rather than competition appear to have more success in the total process of accepting integration (Johnson & Johnson, 1980) and more often cooperation is taught and modeled in early childhood classrooms.

Connections to Other Environments. Those systems which are connected, formally or informally, to other environments appear to be more open and flexible and therefore may also be more supportive during the process of integration. "Connections" may vary in breadth and depth: from as simple as being on the mailing list of the local United Way office, to two or more state agencies planning a cooperative regional conference. It appears that the two areas which have the most connections to other contexts are early childhood education vocational/career systems.

Establishing and maintaining connections requires skill in various forms of communication as well as intensive interpersonal relationships. Early childhood education environments tend to have established connecting pathways to social services systems, public education systems, regulatory agencies, the community, and, most important, family systems. Preschool administrators and staff

typically view their roles as encompassing boundary crossing (Stearns, et. al., 1980; Greene, 1980), and generally are facilitative in interactions. The same is true, although perhaps to a lesser extent, for the vocational systems. They are (or may be) connected to rehabilitation agencies, special and regular education and the community (Albright, et. al., 1981). Elementary and secondary systems, on the other hand, tend not to have established as many connecting pathways.

The key to the above system analysis, as it regards integration, may be in the availability of existing resources, rather than a precise financial amount allocated. If administrators are accessible and supportive, if staff, peer groups and families are open, flexible and cooperative, and if the system is connected rather than isolated, there appears to be more liklihood of the integration process proceeding with less difficulty. In terms of system analysis, early childhood education appears to be the most ready for integration.

What does this analysis mean in regard to individuals identified as handicapped? Are handicapped individuals more or less "ready" at any point along the development continuum for the process of integration? Ultimately and inevitably this is a decison that must be made on an individual basis. In order to create the best "match" or "fit" between a particular individual and a particular environment, and employ the most appropriate technology, it is absolutely imperative to individualize.

To return to Sarah and Harry .... The match for Sarah was different in Denver than it was in the small town in Iowa, although she was the "same" child with the "same" handicapping condition. Harry also was the "same" child, and yet his developmental needs were different from one month to the next, given a change in the family situation. The needs and abilities of individuals are constantly changing; the variables in the contexts in which those individuals operate are also constantly changing. This creates an interesting and challenging situation and a need for a special technology: a "technology of fit."

The technology required is a highly sophisticated one, since it requires that each match or fit be considered and negotiated individually. At the very least it is necessary to consider: 1) the characteristics of the individual considered to be handicapped, including areas of strength, 2) the characteristics of the environments in which that individual operates, 3) the exchange processes between individual and environments, and 4) transitions between and across the varying environments (Carlson, 1976).

The match or fit could become a valued outcome for all parties at interest. It could become the occasion for individual development for all concerned. In the integration process, what usually happens however, is that the handicapping condition defines the individual and an "available" classroom is recommended (Stearns, et. al., 1980). Individualized Educational Programs are written on the basis of what can easily be provided, rather than the developmental needs of all the individuals involved. Granted, more programming options are becoming available in the public schools (Wright, 1980), but technological prowess in creating an adaptive fit is far from conceptualization for most people, much less implementation.

We desperately need a technology of matching such that there is created a "best fit" for the individual identified as handicapped and an environment which is "least restrictive." Some examples of this type of technology may be found: many examples can be found in early childhood (Carlson, 1976; 1979), a few may be found in elementary (Macy & Caster, 1978) and even secondary schools (Sargent, Swartzbaugh & Sherman, 1981), and a few more in vocational systems. But it will not be until the exceptions become the generalization, through the utilization of a necessary "technology of fit," that we will have created a true proces of integration.

Perhaps there are similarities to be found in other integration processes - in fact, parallels to racial integration. If there are indeed similarities, perhaps we can learn from them.

PARALLELS TO RACIAL INTEGRATION

Earlier in this case study, acknowledgment was made of the fact that the word "integration" was chosen to represent a dynamic process which co-exists with the processes of differentiation and generalization. This word was chosen instead of "mainstreaming" with full knowledge of the fact that the word "integration" generally is used to refer to racial integration. In fact, there are parallels in process as well as similarities in word use (Sapon-Shevin, 1978).

> A parallel can be drawn to the movement of racial minorities into previously [W]hite schools in the 1960's, when educators learned that desegregation and integration are not necessarily synonomous, and that desegregation, for all the resistance and anxiety that accompanied it, was much easier to accomplish than integration. As with desegregation, mainstreaming can be accomplished through legal and administrative fiat. Integration, on the other hand, is an ongoing process of interaction that cannot be mandated, nor can it be expected to happen naturally. Educating handicapped students in the mainstream creates opportunity for integration, but it offers little assurance that integration will actually occur (Hoben, 1980, p. 100).

There is another interesting, but somewhat less direct, parallel. In regard to the mainstreaming phenomenon, the word "normalization" is sometimes used. The normalization principle, under that name, was first introduced in 1969 (Dybwad, 1980) in a volume prepared for the President's Committee on Mental Retardation (Kugel & Wolfensberger, 1969). Taken at face value, it appears to mean the process of becoming more "normal" (whatever that is). It also has to do with the extent to which a handicapping condition is perceived as visable or obvious.

> Frequently the discovery that a person has epilepsy, an amputated leg, or some other concealable handicap dramatically changes our sense of who he is. There is a perceptual "snap," a sudden reinterpretation of the cues of interaction. Similar shifts in gestalts were common in race relations a generation ago, when the color line was still a powerful reality and the

phenomenon of "passing for white" fascinated the popular imagination (Gleidman & Roth, 1980, p. 22).

Another parallel may be found in the confusion surrounding social integration on the presumed basis of biology. Blatant prejudice may be found when examining beliefs about both blacks and handicapped (Allport, 1958; Myrdal, 1944).

> The racist did not deny the black a place in normal life. Rather, he asserted that the "innate" biological limitations of the black "race" made it necessary to restrict the black to the lowest rung of the social ladder...like race prejudice, a belief in the social incapacity of the handicapped disguises ignorance or bigotry behind what we "see" to be an obvious biological fact. For, like Tycho Brack watching the sun "move" around the earth, we do not see our belief. We see a handicapped person (Gleidman & Roth, 1980, p.23).

A final parallel has to do with educational programs that are constructed on the basis of the "normalization" principle and the biologically deviant model. In a manner similar to the massive "compensatory" educational effort directed at the inner-city child in the 1960's, programs for the handicapped, with all their good intentions and wonderful Individualized Educational Programs, procedural safeguards and extensive diagnostic processes, are also dominated by the social pathology paradigm. Most of the data indicate that even in the best compensatory programs, the benefits for the child are far less than expected. Still, there were some positive results reported in a careful longitudinal study (Lazar, Hubbell, Murry & Rosche, 1977). In trying to analyze what was learned, some intriguing potential parallels emerge: 1) both handicapped individuals and culturally/racially "different" individuals in special school programs move through two radically different social worlds; in the home they are usually treated as developing human beings and are loved and supported, in the school they are often stigmatized or even treated as non-persons by peers and many adults; 2) the transition between the two worlds for members of any "different" group can be either a challenging and highly stimulating pathway or a devastating and impoverishing dead end street (Carlson, 1976); 3) according to Gliedman & Roth (1980), for the handicapped child, "an almost uncanny socialogical precocity, an ability to "psych out" others to manipulate social encounters, and to see through adult pretense" (p. 198) is developed - similar to the "street smarts" of the ghetto child.

From the experiences of the 1960s, we did at least learn that inner-city children learn in ways that are different from middle class children, especially in cognitive style. There is yet another interesting parallel, if we accept the idea that we as educators do not know precisely how individuals thought to be handicapped really learn.....

> Our ignorance renders the schools' unreflective acceptance of compensatory strategies suspect and possibly perverse. In one stroke a host of crucial pedagogical possibilities and options are ruled out. Whether the shcools seek to teach a child a compensatory skill such as Braille or to teach an academic subject such as social studies, the compensatory model biases them in favor of emphasizing the child's weaknesses and

> limitations rather than helping him to draw upon the strengths and coping abilities that he may have developed in response to the special socialization experiences that attend a handicapped childhood in any social strata (Gliedman & Roth, 1980, p. 199).

For all the parallels, however, there is one painful difference. Blacks, possibly as a result of a long struggle and with the help of legislative and judicial action (Divoky, 1976), in some respects have achieved a positive or at least neutral identity. For handicapped individuals, a positive identity and a resultant constructive place in our society is a long way off.

> ...the possession of an exclusively negative social identity (i.e. always being considered incapable of normal function) is psychologically and socially synonomous with being denied any human identity whatsoever....Thus the perception of a person as handicapped produces perhaps the most radical act of social declassification possible (Gliedman and Roth, 1980, p. 24).

Although not all the similarities and differences to racial integration have been presented, those that have are intriguing. They point out the need for a far more sophisticated "appropriate" technology than is currently in place if we are ever to achieve a dynamic and meaningful integration of handicapped individuals into the universe of acceptability of the "able-bodied."

Further, there is implied a need for thoughtful and sensitive differentiation processes to precede integration processes. Most of us tend to prefer the known and predictable. We do not like to become too open and hence too vulnerable to the unknown or unpredictable. But in order to truly differentiate - to break down both internal and external experiences into separate contrastable elements - we must eliminate perceptual barriers, which lead to barriers to our thinking.

4. OPTIONS

APPROPRIATE MATCH/FIT BETWEEN TECHNOLOGY AND PARTIES AT INTEREST

As in the overall OTA assessment, a definition of technology for the handicapped in this case study meets the following criteria:

1. emanates from a framework derived from an organized body of knowledge which has a defined and practical purpose
2. reduces, bypasses or eliminates one or more of an individual's functional limitations
3. is designed for and used by individuals as opposed to populations.

In addition, technologies discussed in this chapter may be considered "appropriate" if they involve little or no risk and some benefit to the parties at interest. Given the numerous parties at interest and the relatively sophisticated nature of the "technology of fit" as it applies to the integration process, the potentiality for even adequate articulation is at least challenging.

What is presented in the following pages, within a developmental framework which focuses on differentiation, integration and generalization, is a cluster of strategies which appear to have the greatest likelihood of facilitating a successful match or fit. Such a match will allow a handicapped individual to function with at least minimal competency within a regular educational setting, and will also not strain the resources of existing systems beyond their functional capacity.

DIFFERENTIATION

It is perhaps only beginning to be apparent that in order for integration (in our sense) to proceed smoothly and appropriately for individuals, it must be prefaced by differentiation - the ability to break down internal and external experiences into separate contrastable elements. It is important that this process take place without undue valuing or judgment, on the part of those participating, for any of the contrasting elements. Rather, the positive value may be attached to the process of differentiation itself.

Perhaps this process of differentiation can be illustrated by a conversation that took place between a teacher and an aide prior to the beginning of school. They are talking about the composition of their preschool classroom. The aide was concerned about two children who had been identified as handicapped and were to be placed in their half-day class on a full time basis.

Tony: (aide) Won't it be difficult trying to provide appropriate experiences for both a Down's Syndrome child and a child with cerebral palsey?

Elaine: (teacher) Possibly. Becky and Steve do have very special needs. But since the class this year has children of mixed ages both chronologically and developmentally, I think they'll be able to keep up with their peers.

Tony: But what about the helmet? Won't we have to explain Steve's helmet?

Elaine: Yes we will. We'll have to explain to the children and the parents

that the helmet keeps Steve's head from getting hurt when he falls down. But we'll also have to explain that Jennifer and Judy fall down a lot also. They're identical twins and have not been developing as well as their parents had expected. It's going to be hard, but I imagine we'll be able to tell them apart by the end of the month. The children will probably do much better than we will in a shorter time.

Tony: Becky doesn't talk at all, does she?

Elaine: It takes a little longer for children with Down's Syndrome to develop speech, but she understands fairly well, and does use about 20 words appropriately. That's more English words than Manuel and our new Vietnamese child know. I don't even know his name, just that he's in a foster home at the minister's house and I said we could accomodate him. You know some Spanish and so does Linda, but we'll have trouble with Vietnamese.

Tony: Speaking of Linda, I've heard that she's gifted and sometimes is a troublemaker.

Elaine: Her father and I think she is extraordinarily bright, but she has also been upset by her parents divorce. We have two children from single-parent families. They'll need special attention from time to time.

Tony: And Randy has a new baby sister so I guess he'll need some extra attention too, won't he? I guess all the children need special attention because they're all different.

Elaine: Yes, they're all different. And those differences are wonderful. To understand them will take all our ingenuity and will challenge us every minute of every day, but it will be worth it. Besides, we'll have lots of specialized help. Thank of how much you and I will develop as the year goes by. Probably more than the children....

Although this particular scenario is again a compilation of instances and is not based upon any "real" preschool classroom, it would not be surprising if it were. There are nine children identified, out of a probable eighteen, who have recognizable special needs at the beginning of the school year. Before the end of the year it is very likely that the other nine will also have recognizable special needs. This is typical of a preschool classroom and perhaps other classrooms as well. What is important, however, is that the process of differentiation is beginning at the professional level. Elaine has recognized Tony's need to begin this process -- the need to differentiate and to contrast the very different and unique children who will comprise this specific class. While Elaine is perhaps eager to begin the proces of combining elements (children, experiences, interactions, etc.) in a new way - i.e. the process of integration - she knows the importance of first differentiating, and is eager to make that process a positive experience for Tony and for the children.

In education as in society, the process of differentiation has not been ignored; in fact, it has provided the foundation for special education and related services within the public schools. But differentiation has often taken place in isolation from the other critical processes of integration and generalization, leading, in part, to contrived separation and to artificial barriers. If differentiation were an integral part of the triad of developmental processes, the "technology of fit" and appropriate matching procedures might be based upon a developmental model or perspective.

For a long time, educational personnel have followed either a medical model (causality) or a psychoeducational model (remedial intervention). The focus of

both stops at differentiation and thus is short of the goal of integration and generalization. If a developmental model were to be followed (as is generally found with early childhood personnel), the focus of differentiation would be to ascertain what comes next along a developmental continuum and to work toward specifiable goals and objectives for individuals.

Not only is this developmental model appropriate for persons identified as "handicapped," but it is also appripriate for ALL students and also for the parties at interest listed previously - with little or no risk and obvious benefits. The differentiation process may then be stated "Sarah (or Elaine or Junior) isn't able to do that Yet," rather than the less developmentally-oriented statement, "Sarah can't do that (period)." In essence, development is dynamic and interactive, not static and unchanging. As we change, we become more differentiated and thus more capable of development. This is a profound and basic concept; unfortunately, it has received little attention from educational personnel (Anastasiow, 1981; Gliedman & Roth, 1980).

In trying to synthesize the developmental perspective with the process of differentiation, Tony and Elaine may again be able to provide clarification. This time they are trying to decide upon the content of a letter that is to be sent to the parents of all the preschool children. They are also trying to adhere to "informed consent" guidelines in regard to a federal project involving the supported integration of young handicapped children in their preschool (Carlson, 1979). The two children they are to have in their classroom, Becky and Steve, are a part of this federal project. Their conversation focused upon how much to tell the parents about the project and about "handicapped" children so that the parents would understand and consent to enroll their "nonhandicapped" children.

Elaine: I think we should tell the parents exactly what this project entails - what it means for their child and for them too.

Tony: I don't think so. I think some of the parents will be frightened that their young child might be hurt or might pick up bad habits. I think we should do it well and then tell the parents.

Elaine: I disagree. I think we should explain as much as we can about the differences in skill levels, or the differences in ability to move around or to see or hear that their own child might want to talk about. Even if we could "hide" this, I don't think we want to. Parents not only have a right to know what their child is learning, they have a right to learn as well.

Tony: But they may withdraw their child. They may feel their child isn't ready for this type of experience; or worse, feel that we're using their child as a "guinea pig."

Elaine: You may be right about the fears - as invalid a we both think they might be. Let's write the letter with as much detail as possible, and invite the parents to an open meeting. Then we can have some teachers who have been integrating handicapped children for a few years discuss what it means in the classroom.

Tony: Good idea. We can show the slides and have all those neat children's books about handicapping conditions available.

All of the parents in that preschool classroom responded to the letter, consented to have their children participate, and attended the meeting. Their attendance was apparently to express their support to the staff for being so

sensitive to the parental need for clarification -- again, a part of the process of differentiation. Tony and Elaine believed that the parents could accept new ideas and were prepared to support them in the developmental process. It is of interest to note that in the course of this successful federal project (1975-1980) mutual support was expressed by many teachers, administrators, parents and students (Carlson, 1979).

What made this project successful? What goes into an appropriate "technology of fit?" What are the dynamics behind the implementation of strategies that facilitate the developmental processes of differentiation, integration and generalization?

Given a developmental perspective, there are at least two technologies that could assist in the process of achieving appropriate differentiation: 1) the development and maintenance of adequate support systems for the numerous individuals involved and 2) the employment of a selective focus targeted toward those strategies which have the greatest likelihood of success.

Support Systems. As individuals participate in change, development or differentiation, they are faced with the necessity of learning and/or reorganizing schemes, values, attitudes, concepts and skills. To do so in isolation may mean a cumulative feeling of overload or burnout. As it involves the integration of handicapped persons within the educational system, several groups of individuals may be in need of support, guidance, clarification and assistance from time to time. In addition, each of these groups are struggling with role identity. Role clarification appears to be a universal need, and support systems can function to clarify roles and responsibilities. Individuals functioning in the following roles need guidance and support:

nonhandicapped peers
teachers
resource personnel (nonclassroom/itinerant)
administrators
support personnel (aides, secretaries, volunteers, janitors, etc.)
parents
handicapped individuals themselves*

The need for support and assistance to a large number of individuals during a change process argues for a sophisticated technology.

How can we provide support systems that will allow maximum

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* When some individuals identified as handicapped are at particular developmental stages, they appear to need support from a peer group of individuals they consider similar in ability. Although this is not true for all individuals, for some it may be very important. Conceptually, it appears to be a necessary component of the differentiation/integration process which is continuing to evolve as are the individuals and their interactions with varying environments. Perhaps this is why resource rooms, where individuals of similar abilities meet, continue to be seen by "handicapped" students themselves as "safe" havens. Groups for "deaf" and groups for "blind" individuals have also been somewhat successful.

> communication and the transference of new ideas and skills to diverse situations in the minimum amount of time? The few institutional or structural devices used for communication between school systems in the past have proven much too weak and slow moving for current circumstances. After all, public education today is extremely complex, unwieldy, and not easily changed or understood, (Gallagher, undated publication, p.5).

Gallagher (undated publication) suggests a mode of delivering ideas and skills and a set of practices referred to as technical assistance. He also includes three general principles that are in agreement with the ideas related to technology presented thus far: the person(s) expected to change voluntarily participates in the process, a common language (or exchange process) is used, and basic values are not challenged or contradicted.

The literature on effective technologies to bring about change or adaptation is sufficiently clear so that implementation could take place within an appropriate framework (Rogers & Shoemaker, 1971). First we have to recognize that it is individuals - i.e. real people - who need the support systems: people who are hurting, people who are struggling, many who are burned-out from excessive demands and inadequate support. But they are caring people; it is we who have not yet provided sufficient opportunity for their concerns to be shared openly and honestly.

Selective Focus. Given decreasing resources relative to the needs of system members, a partial solution is to select technologies and aspects of systems (including individuals) for which there is the greatest likelihood of success. This targeting is in contrast to an "across the board" formula which supposedly provides all member with equal opportunity and challenge. However, the targeting is based upon what is known about the developmental processes of differentiation and integration. I suggest three foci for targeted technologies:

voluntarism - providing individuals with a choice to participate as well as helping to define the determinants of participation is far more likely to be successful than mandating that every one comply. Individuals in this instance means everyone involved - from teachers to students to administrators to parents. Those who choose to participate will most likely see the process as a challenging opportunity for personal and/or professional development. Choice may go hand in hand with the following.

reward - for many, the opportunity to develop further skills and abilities will be sufficient. Often these people are said to have an internal locus of control; they like to manage their own destiny. Others, however, appear to need some form of external reward or reinforcement. The need for reward or recognition is as true of teachers as it is of pupils or parents or administrators. Reward need not take the form of an "A" paper or increased pay. Rather, it may be something the person would like to do or have: a day off, attend a special event, be recognized for successful performance by peers or superiors, receive a sensitive evaluation, be given extra materials, etc.

curriculum adjustment - if choices have to be made (and they do), a system would be better off allocating resources where they have the greatest

likelihood of success. It would appear that at two points in the continuum of development there are increased opportunities for successful integration programs. These two points are early childhod (from birth through kindergarten) and the point when vocational choices are salient (high school and beyond.) Interestingly, these are the two areas that have received the least amount of programming attention from the public shcools thus far (Stearns, et al., 1980; White, 1980). To choose to differentially target resources to these areas would (probably) mean that somewhat massive readjustment would have to take place.

The above foci for targeted technologies - support systems and selective focus - if implemented sensitively and with concern for an appropriate match, will go a long way toward providing a framework for successful integration.

INTEGRATION

The second area in which technology options might be organized is in the process of integration - the combining of differentiated elements in a new way, thereby providing new informtion, new skills, new technologies, new groupings, or new processes. It seems almost too readily apparent that a recombination process cannot take place in isolation. Rather, those functioning in roles that comprise the parties at interest may choose to work in an open, collaborative or coordinated manner.

There are at least five technological aspects that could be combined in a new way to yield processes that approach coordinated, cooperative efforts. They are presented here in a manner which suggests a continual or ongoing process leading toward institutional and individual development. These aspects are: 1) assessing, 2) implementing, 3) networking, 4) facilitating and 5) evaluating.

Assessing. For years educational and/or medical assessment has formed the basis for differentiation. We have not yet, however, begun to explore totally what asessment procedures can bring to the process of integration. First, we will have to recognize that there will never be one all inclusive assessment instrument (Sameroff, 1978). Then we will have to look at current procedures designed to elicit reponses. Perhaps the most exciting recent development has been the work of Brazelton in which he trains those who assess to obtain the "best possible response" from the individual who is being assessed (Carlson, 1976). The individual's strong points are discovered along with his weak ones. Instruction becomes not only a program of "catch up" focused only on the weak points but also one of "striving toward excellence" through the cultivation of the individual's strengths.

Given a multitude of data from those who have stimulated a "best possible response," assessment may indeed be reconstituted, but it will require rethinking and open coordinated efforts (Gliedman & Roth, 1980).

Implementing. It will be necessary when implementing programs focusing on integration to operationalize in a more complex manner. "A major shift has occurred din psychology in the past 4 years" (Anastasiow, 1981) and those who seek to integrate must be able to function in a new manner with new information. The focus will be coordination of content and cooperation in process.

Content analysis from many areas indicates a shift in emphasis from

behaviorism or mechanistic modes and theories of learning to those that are considered to be cognitive or cognitive-structural (McKeachie, 1976; Gardner, 1978). Understanding and acceptance of a more complex explanation of learning will require alterations in school organization as well as classroom practices. One of the alterations, and one that is relevant to integrating handicapped students, is a substantial increase in cooperative endeavors, rather than competitive or individualistic programs, (Johnson and Johnson, 1980; Sargent, et al., 1981; Sapon-Shevin, 1978).

In the past we have relied heavily on behavior modification schemes with an external reward of some sort of token (candy, check marks, prizes, etc.). Even grades emphasize the competitive and individualistic nature of the teaching/learning process as it has been conceived. However, cooperative endeavors, such as Linda (the bright child) helping Manuel (the Spanish-speaking child) may facilitate more of the types of learning we will need in the future. When Harry taught the kindergarten children music and art, he and the children were participating in a cooperative endeavor.

Networking. This phenomenon is only beginning to be recognized by educators, although it has obviously been around for a long time. Basically, networking means the establishing and maintaining of connections to other environments and other individuals. These connections support the mutually beneficial flow of information and resources that may have an impact on integration processes (Swan, 1980).

Requiring open channels of communication could mean that adjunct systems would not longer be viewed in isolation. Medicine and education could be linked - vitally and essentially. Social services would no longer be seen as separate but as connected to other existing systems. In essence, the concept of "team approach" could be incorporated in its broadest sense.

In one integrating school, the physical, occupational and speech therapists decided the work they were doing in isolated therapy sessions was not as helpful to the children they were working with as it might be. So they asked all the regular class integrating teachers if they could work with the "handicapped" children in the regular classroom. Not only did their presence encourage more active "therapy" sessions, but they helped all the children to understand the essentials of movement, communication, fine manipulative activities, etc. One of those "regular class children" is now a brace-maker, another is a dentist specializing with "handicapped" children. The therapists, now retired, are still building bridges to understanding by continuing to particupate in the "networking" process.

Facilitating. This concept, more than any other, is vital to the process of change and development. It requires of individuals an openness to ideas and information and a willingness to negotiate in a coordinated, collaborative manner. It argues for a successful outcome, and derives its strength from multiple perspectives. It suggests becoming unlinked from what is, and reorganizing what could be. It favors honesty and respect for those who participate, regardless of ability or background.

It also suggests a new level of professional -- a change agent (Rogers & shoemaker, 1971), a facilitator, a mediator (Carlson, 1976), an advocate, a boundary crosser. This person would have to be open, flexible, imaginative,

dedicated, respectful and respected. A sense of humor would help, as would a non-threatening manner; employing creative risk-taking as a style would be an asset. This person could "walk with the king, but not lose the common touch." There are bridges to build and boundaries to cross. We need such people. We can't start soon enough!

Evaluating. From a coordinated perspective, evaluation can be challenging and stimulating. If the focus, at least initially, is formative (i.e., evaluative feedback will create change in the direction of better programs), the process itself may facilitate development. If evaluation is undertaken continuously, open and over a lengthy period of time, the information gleaned will be an incredible asset in adaptation of educational systems in the future.

One long term evaluative effort recently reported (Swan, 1980) indicated the viability of short term funding projects in the network of Handicapped Children's Early Education Programs. Involving participants of integration programs may provide very useful information (Jones, Gottliev, Guskin & Yoshida, 1978).

Evidence exists to suggest that past and current educational practices are not consistent with the developmental process of integration which describes differentiated elements as being combined in a new way. Little accomodation, coordination, cooperation or communication is taking place in the context of the public schools (Jones, et al., 1978; Stearns, et al., 1980). It is probable that the potentially interactive context - medicine, social services, public health, transportation systems, etc. - also are guilty of being less than accomodative. Of course, the whole process of recombining in a new way is extremely difficult, perhaps close to impossible. The recombination proces does facilitate change. And change is essential to development - of individuals as well as institutions.

GENERALIZATION

The last area in which technology options might be exercised is in the process of generalization - utilizing recombinations in other situations. In the section discussing parallels in the processes of racial integration and integration of handicapped individuals, it was suggested that we look closely at what was and what was not learned in the efforts of the 1960s. This in effect is the process of generalization.

Another more individualized example of the process of generalization occurred when an experienced preschool teacher was asked if she wanted to have a handicapped child in her classroom for the third consecutive year. She had previously successfully integrated a blind child and a deaf child. Her response, "I'd like to work with a child who has different special needs. I'm ready for a new challenge," (Carlson, 1979, p. 41).

This teacher in essence had undergone the developmental process of generalization. She had successfully differentiated salient features of the handicapping conditions of deafness and blindness, and was able to adjust curriculum and make classroom adaptations to accommodate those children. Recognizing the new skills that she had acquired, she was ready to begin the process again with a child who had a different type of special need as well as different special abilities. She also volunteered to guide and support a new

teacher who had no experience with the processes of differentiation and integration.

The most powerful and also possibly most elusive outcome of the processes of differentiation, integration and generalization is acceptance of handicapping conditions as a positively valued aspect of diversity in our society. To move from fear and ambiguity through tolerance to acceptance may not be possible in our lifetime. If change is possible, however, it may be brought about by two relatively sophisticated technological processes: strategic planning and supported implementation (Greene, 1980; Carlson, 1979).

Strategic planning. ultimate acceptance of those identified as handicapped wil not take place because we wish it, or because a particular morality is currently in vogue. Acceptance of any obvious aspect of diversity in our Western society will come about only through careful and systematic planning with a means/end philosophy. It requires coordinated efforts aimed at the developmental processes of differentiation and integration. Intended outcomes must also be accounted for. Flexibility, adaptability and negotiation will have to take the place of rigidity, impermeability and adversarial relationships. Risk-taking could be encouraged as well as participant involvement. Well-documented principles from the behavioral and social sciences can be followed, as long as contextual variation is a given.

Supported implementation. All the planning in the world will not suffice to bring about change or development if there are not sufficiently motivated people to carry out the plans. And even those people who choose to become involved in the integration process will need continuing support. Perhaps the key to successful generalization is the person who performs in the role of facilitator or boundary-crosser. The person in this role must have at least the following skills: ability to deal with role and job ambiguity, ability to inspire confidence, and ability to set up and maintain linkages. In addition, having a clear vision of what is to be achieved and being able to handle specific cases and general issues simultaneously is extremely helpful (Schensul, 1980).

But where are these people? These facilitators or boundary-crossers? Do they exist or must they be "trained?" Throughout this case study, in the vignettes and stories presented, there are examples of people functioning in this role: the school principal who understood not only Sarah's needs, but the needs of other individuals as well; the resource teacher who found a place for Harry to develop as a valued individual; the preschool teachers who saw the integration process as a challenge and were willing to share the excitement with others; the retired therapists who many years ago were able to cross traditional boundaries. These are not isolated examples. There are many people who possess sufficient qualities of the nature required that they could function in this role. At a guess, there might even be one in 20 who possess the necessary characteristics.

My hunch is that the incidence is highest among those who function at the early childhood level and lowest at the secondary level within the educational system. But they are there. We have only to find them, convince them of their own abilities (they are usually very unassuming) to help them to understand what it is that they might do.

Educators, however, have typically not thought about building bridges to understanding or crossing boundaries to increase the playing field. But perhaps we are ready for a technology which will bring individuals together - for it is when individuals work and play together cooperatively that any perceived functional limitation ceases to be important. And that is the ultimate generalization. That is the ultimate "least restrictive environment."

5. SUMMARY AND SPECIFIC RECOMMENDATIONS

SUMMARY

Against a background of the historical treatment of handicapped individuals, Public Law 94-142, The Education for all Handicapped Children Act is described. This law has served many purposes, not the least of which is to bring to the surface many pervasive issues regarding individuals identified as handicapped as well as those who attempt to serve them within the varying educational systems.

A major portion of this case study of one specific context is concerned with identifying some of the interactive variables that contribute to the concept of a match between available technology, the needs and abilities of parties at interest in particular roles are also described.

Central to this presentation is a general framework which specifies the developmental process of integration, and which further specifies the process of differentiation which precedes integration and the process of generalization which follows. In the developmental processes, attention is directed also to exchanges processes between individuals, transitions within and across varying environments, and the negotiation of an adaptive fit or match.

Issues stemming from the law and relating to "least restrictive environment" and "meeting unique needs" are discussed and examples are noted. Some issues are broadly-based: context, difference; goals; change; delivery of services; labeling; choice; and negotiation. Others are more specific: administration, staff and peer group support system; teacher competence; early childhood efforts; evaluation/research; burnout; resource availability; and role ambiguity.

The concept of readiness for integration is introduced in the section on status of handicapped individuals in regard to technology. Following a developmental model and systems perspective, it would appear that young children and systems for early childhood are the most ready to participate in integration efforts geared toward developmental abilities. The period when individuals focus on career choice, i.e., that closest to adulthood, also appears to be in a state of readiness, although not as much. This includes the vocational systems connected to that developmental period. Characteristics of educational systems which yield a profile of readiness are detailed and include: type of school organization, type and amount of administrative support, resource availability, developmental competence of regular class and special education teachers, openness and flexibility of the system and connections to other environments.

In an effort to draw upon relevant past experiences, we describe some parallels to racial integration. Even as "desegration" was not found to be synonomous with integration, so also is "mainstreaming" unlike the developmental process of integration. Programs for both minorities and handicapped have been built upon a social pathology paradiam, and the concept of "normalization" is found in both areas. The "handicapped" differ, however, in that they are often seen as socially declassified and are thus denied any place in our society.

In the last section, options are described briefly. The goals are sophisticated; they are presented within a framework which includes differentiation, integration and generalization. Ideas for the future

include: adoption of a developmental model; providing support systems; focusing on selected components; coordinating and cooperating in specific efforts; participating in strategic planning and supported implementation.

SPECIFIC RECOMMENDATIONS

In this section, a few specific recommendations regarding integration of handicapped individuals with educational systems are presented. They are brief, in fact terse, for they are not meant to be separated from the preceeding case study. Rather, they have evolved from the background, issues and options previously presented. They are meant primarily for participants in the educational systems, including higher education systems.

1. Build and disseminate an easily understood framework which includes both the developmental perspective and a focus on the triad of developmental processes: differentiation, integration and generalization.

2. Within the above framework, specify goals and objectives for individuals identified as handicapped and make them compatible with fiscal appropriations.

3. Clarify roles and responsibilities of parties at interest.

4. Offer choices or alternatives to participants; eliminate "mandatory" inclinations.

5. Develop and maintain functional and individualized support systems.

6. Increase cooperative peer group endeavors for both children and teachers. Focus less on competition, more on cooperation.

7. Increase efforts (programs, resources, personnel, etc.) at the early childhood level.

8. Introduce negotiation as a positively valued aspect of "technology of fit."

9. Redouble efforts to increase professional competence; at the same time find ways to prevent "burnout" of most qualified professionals.

10. Focus, with both children and adults, on increasing knowledge about handicapping conditions, providing supported experiences, and evaluating (positive and negative) attitude changes.

11. Find and support facilitators or boundary-crossers. Have them participate in "networking" phenomenon.

12. Increase field research/education and make sure information gleaned gets back immediately to practicioners.

UNDERSTAND THAT CHANGE IS NOT EASY, BUT PATIENCE AND UNDERSTANDING WILL BE REWARDED!

The information presented in this case study is both theoretical and experiential. An attempt has been made to focus on the educational system, and specifically early childhood, but most of the information might be generalized to the greater societal contex. Whether or not generalization occurs, it is clearly apparent that we must and can meet the challenge of providing or facilitating options to integrate a segment of society that we have continued to call "handicapped." We must do so unhesitatingly, for if we do not, our society in the end will suffer the handicap of intolerance and rigidity - ultimately the most restrictive environment.

APPENDIX A

HIGHLIGHTS OF FEDERAL EDUCATION POLICY FOR HANDICAPPED CHILDREN

1958 - 1975

P.L. 85-026 (1958)	Grants for teaching in the education of handicapped children, related to education of the mentally retarded.
P.L. 88-164 (1963) (Title III)	Authorization of funds for research and demonstration projects in education of the handicapped.
P.L. 89-10 (1965)	Elementary and Secondary Education Act - Title III authorized assistance to handicapped children in State operated and State supported private day and residential schools.
P.L. 89-313	Amendments of P.L. 89-10 - grants to state educational agencies for the education of handicapped children in State supported institutions.
P.L. 90-170 (1967)	Amendments to P.L. 88-164 - funds for personnel training to care for the mentally retarded and the inclusion of individuals with neurologic conditions related to mental retardation.
P.L. 90-247 (1968)	Amendments of P.L. 89-10 - provided Regional Resource Centers for the improvement of education of handicapped children.
P.L. 90-538 (1968)	Handicapped Children's Early Education Assistance Act - grants for the development and implementation of experimental programs in early education for the handicapped, from birth to age 6.
P.L. 90-230 (1969)	Amendments of P.L. 89-10 - Title VI consolidated into one act the previous enactments relating to handicapped children - Education of the Handicapped.
P.L. 92-424 (1972)	Economic Opportunity Amendments - required that not less than 10% of Head Start enrollments opportunities be available for handicapped children.
P.L. 93-380 (1974)	Amended and expanded Education of the Handicapped Act in response to right to education mandates - required States to establish goal of providing full educational opportunity for all handicapped children.
P.L. 94-142 (1975)	Education for All Handicapped Children Act - required States to provide a free appropriate education for all handicapped children between the ages of 3-18 within the State no later than Sept. 1, 1978.
P.L. 94-142 Sec. 619	Amendment to P.L. 94-142 to enhance the expansion of services to preschool handicapped children (3-5) through provision of Preschool Incentive Grants.

APPENDIX B

NEA RESOLUTION 78-37 EDUCATION FOR ALL HANDICAPPED CHILDREN*

The National Education Association supports a free appropriate public education for all handicapped students in a least restrictive environment which is determined by maximum teacher involvement. However, the Association recognizes that to implement Public Law 94-142 effectively -

a. A favorable learning experience must be created both for handicapped and non-handicapped students.

b. Regular and special education teachers, administrators, and parents must share in planning and implementation for the disabled.

c. All staff should be adequately prepared for their roles through in-service training and retraining.

d. All students must be adequately prepared for the program.

e. The appropriateness of educational methods, materials, and supportive services msut be determined in cooperation with classroom teachers.

f. The classroom teacher(s) must have an appeal procedure regarding the implementation of the program, especially in terms of student placement.

g. Modifications must be made in class size, using a weighted formula, scheduling, and curriculum design to accommodate program demands.

h. There must be a systematic evaluation and reporting of program developments using a plan which recognizes individual differences.

i. Adequate funding must be provided and then used exclusively for this program.

j. The classroom teacher(s) must have a major role in determining individual educational programs and should become members of school assessment teams.

k. Adequate released time must be made available for teachers so that they can carry out the increased demands upon them.

l. Staff must not be reduced.

m. Additional benefits negotiated for handicapped students through local collective bargaining agreements must be honored.

n. Communication must be maintained among all involved parties.

o. All teachers must be made aware of their right to dissent concerning the appropriate program for a student, including the right to have the dissenting opinion recorded.

p. Individual educational programs should provide appropriate services for the handicapped students and not be used as a criteria for the evaluation of the teacher.

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*From National Educational Association, Today's Education, September-October 1978,

REFERENCES

Albright, L., Hasazi, S. E., Phelps, L. A. and Hull, M. E. Interagency collaboration in providing vocational education for handicapped individuals. Exeptional Children, 1981, 47(8), 584-589.

Allport, G. W. The nature of prejudice. Garden City, NY: Doubleday Anchor, 1958.

Anastasiow, N. J. Early childhood education for the handicapped in the 1980's: Recommendations, Exceptional Children, 1981 47(7), 276-281.

Bennis, W G. Changing organizations. New York: McGraw-Hill, 1966.

Bensky, J. M., Shaw, S. F., Gouse, A. S., Bates, H., Dixon, B , and Beane, W. E. Public Law 94-142 and stress: A problem for educators, Exceptional Children, 1980, 47(1), 24-29.

Berman, P., and McLaughlin, M Federal programs supporting educational change. The findings in review (Vol. 4). Santa Monica, CA: Rand Corporation, 1975.

Bruner, J. S. The nature and uses of immaturity, American Psychologist, 1972, 27, 687-701.

Bruner, J. S., Jolly, A., and Sylva, K. Play: Its role in development and evolution. London: Penguin, 1976.

Caldwell, B. The importance of beginning early. In J.B. Jordan and R.F. Dailey (Eds.) Not all little red wagons are red: The exceptional child's early years. Reston, VA: Council for Exceptional Children, 1973, 2-9.

Carlson, N. A. (Ed.). PATHWAYS: Toward integrating handicapped children. (Final Report), East Lansing, MI: Institute for Family and Child Study, MSU, 1979.

Carlson, N. A. (Ed.). The contexts of life: A socio-ecological model of adaptive behavior and functioning. Final Report, East Lansing, MI: Institute for Family & Child Study, MSU, 1976.

Clapp, G. M A comparative study of the attitudes, knowledge, and experience of teachers regarding handicapping conditions and mainstreaming in early childhood programs. Unpublished doctoral dissertation, Michigan State University, 1979.

Clark, G. M Mainstreaming for the secondary educable mentally retarded: Is it defensible? Focus on Exceptional Children, 1975, 1, 1-6.

Cooper, C. L., and Marshall, J. Occupational sources of stress: A review of the literature relating to coronary heart disease and mental ill health, Journal of Occupational Psychology, 1976 49, 11-28.

Davis, W. E. An analysis of principal's formal training in special education, Education, 1981, 101(1), 89-94.

Divoky, D. Mainstreaming: Moving special ed, Compact, February 1976, 2-5.

Dixon, B., Shaw, S. F., and Bensky, J. M. Administrator's role in fostering the mental health of special services personnel, Exceptional Children, 1980, 47(1), 30-36.

Dollard, J., and Miller, N. E. Personality and psychotherapy. New York: McGraw-Hill, 1950.

Duncan, J. R. The rising star of Public Law 94-142, The Directive Teacher, 1980, 2(4), 14-17.

Dunn, L. M Special education for the mildly retarded: Is much of it justifiable? Exceptional Children, 1968, 35, 5-22.

Dybwad, G. Avoiding misconceptions of mainstreaming, the least restrictive environment, and normalization, Exceptional Children, 1980 47(2), 85-88.

Education Advocates Coalition. Report on federal compliance activities and implementation of the Education for All Handicapped Children Act. Washington, D.C: Author, 1980.

Erikson, E. H. Childhood and society. New York: W.W. Norton, 1963.

Flavell, J. The developmental psychology of Jean Piaget. Princeton: Van Nostrand, 1963.

Furth, H. G. Piaget and knowledge. Englewood Cliffs, N.J.: Prentice-Hall, 1966.

Gallagher, J. Rights of the next generation of children, Exceptional Children, 1978, 46(2), 98-105.

Gallagher, J. J. Technical assistance and education in America. In Clifford, R., and Trohanis, P., (Eds.), Technology Assessment and Educational Settings, NCEMMH. Columbus, OH: Ohio State University, 1980, 3-12.

Gardner, H. Developmental psychology: An introduction. Boston: Little, Brown and Company, 1978.

Gearheart, B. R., and Weishahn, M W. The handicapped student in the regular classroom. St. Louis: The C.V. Mosby Co., 1980.

Gliedman, J., and Roth, W The unexpected minority: Handicapped children in America. New York: Harcourt Brace Javanovich, 1980.

Greene, D. Local implementation of Public Law 94-142: The crucial role of "boundary crossers." Menlo Park, CA SRI International, 1980.

Heller, H. W. Secondary education for handicapped students: In search of a solution, Exceptional Children, 1981, 47(8), 582-583.

Hersey, P., and Blanchard, K. H. Management of organizational behavior. New Jersey: Prentice Hall, 1972.

Hobbs, N. The futures of children. San Francisco: Jossey-Bass Publishers, 1975.

Hoben, M Toward integration in the mainstream, Exceptional Children, 1980, 47(2), 100-105.

Johnson, D. W., and Johnson, R. T. Integrating handicapped students into the mainstream, Exceptional Children, 1980, 47(2), 90-98.

Johnson, R., and Johnson, D. W The social integration of handicapped students into the mainstream. In M. Reynolds (Ed.), Social acceptance and peer relationships of the exceptional child in the regular classroom. Reston VA: The Council for Exceptional Children, 1980.

Jones, R. L. Labels and stigma in special education, Exceptional Children, March 1972, 553-564.

Jones, R. L., Gottlieb, J., Guskin, S., and Yoshida, R. K. Evaluating mainstreaming programs: Models, caveats, considerations and guidelines, Exceptional Children, 1978, 588-601.

Jordan, D. C. Developmental universals and their implications for parental competence. In M. Fontini and R. Cardenas (Eds.), Parenting in a multicultural society. New York: Longman, Inc., 1980, 27-40.

Kohlberg, L. Stage and sequence: the cognitive-developmental approach to socialization. In D.A. Goslin (Ed.), Handbook of socialization theory and research. New York: Rand McNally, 1969.

Kugel, R., and Wolfensberger, W. Changing patterns in residential services for the mentally retarded. Washington, D.C.: President's Committee on Mental Retardation, 1969.

Lazar, I., Hubbell, V. R., Murray, H., Rosche, M., and Royce, J. The persistence of preschool effects. Washington, D.C.: Department of Health, Education, and Welfare Publications, (OHDS) 78-30129, 1977.

Levitt, E. and Cohen, S. Attitudes of children toward their handicapped peers, Childhood Education, 1975, 51, 171-173.

McLaughlin, M W., and Berman, P. Critical process in implementation. Paper prepared for IMTEC Training Course, 1975.

McKeachie, W J. Psychology in America's bicentennial year, American Psychologist, 1976, 32(1), 5-13.

Macy, D. J., and Carter, J. L. Comparison of a mainstream and self-contained special education program, Journal of Special Education, 1978, 12(3), 303-313.

Maslach, C. Job burnout: How people cope, Public Welfare, 1978, 36, 56-58.

Meisels, S. J. First steps in mainstreaming: Some questions and answers, Young Children, 1977 33(1) 4-13.

Morgan, D., and York, M E. Ideas for mainstreaming young children, Young Children, 1981 36(2), 18-25.

Myrdal, G. An American Dilemma. New York: Harper & Brothers, 1944.

Nadler, B., Merron, M., and Friedel, W. K. Public Law 94-142: One response to the personnel development mandate, Exceptional Children, 1981, 47(6), 463-464.

National Education Association, Consensus, conflict and future directions: Education for all handicapped children. Washington, D.C.: Author, 1978.

Orlich, D. C. Federal educational policy: The paradox of innovation and centralization, Educational Researcher, 1979, 8, 4-9.

Piaget, J. Piaget's theory. In P.H. Mussen (Ed.), Carmichael's manual of child psychology (Vol. 1). New York: Wiley, 1970, pp. 703-32.

Piaget, J. and Inhelder, B. The psychology of the child. New York: Basic Books, 1969.

Post, J. O., and Petzy, V. J. A career accessibility model for special needs individuals, Career Education Quarterly, 1977, 2 6-14.

Rheingold, H. L., Hay, D. R., and West, M J. Sharing in the second year of life, Child Development, 1976, 47(4), 1148-1158.

Rieke, A., and Carlson, N. A. (Eds.). Resources for mainstreaming: An annotated bibliography of integration of the handicapped from a research perspective - emphasis on early childhood. East Lansing, MI: Institute for Family & Child Study, MSU, 1980.

Rogers, E. and Shoemaker, F. F. Communication of innovations. New York: The Free Press, 1971.

Ryan, C. The open partnership: Equality in running the schools. New York: McGraw-Hill, 1976.

Sameroff, A. J. (Ed.). Organization and stability of newborn behavior: A commentary on the Brazelton Neonatal Behavior Assessment Scale, Monographs of the Society for Research in Child Development, 1978, 43(5-6), Serial No. 177.

Sapon-Shevin, M Another look at mainstreaming: Exceptionality, normality and the nature of difference. Phi Delta Kappan, October, 1978, 119-121.

Sargent, L. R., Swartzbaugh, T. and Sherman, P. Teaming up to mainstream in English: A successful secondary program, Teaching Exceptional Children, 1981, 13(3), 100-103.

Schensul, J. J. Boundary spanning roles in schools as organizations. Report submitted to National Institute of Education, 1980.

Sivage, C. A. The organizational context of mainstreaming, The Directive Teacher, 1980 2(4), 16-17.

Stearns, M. S., Greene, D. and David, J. L. Local implementation of Public Law 94-142: First year report of a longitudinal study. SRI International: Menlo Park, CA, 1980.

Swan, W W. The handicapped children's early education program, Exceptional Children, 1980, 47(1), 12-16.

Tyler, L. E. Individuality. San Francisco: Jossey-Bass, 1978.

U.S. Office of Education. Progress toward a free, appropriate education. Washington, D.C.: U.S. Department of Health, Education & Welfare, 1979.

Watzlawick, P., Weakland, J. H., and Fisch, R. Change: Principles of problem formation and problem resolution. New York: W. W. Norton & Company, 1974.

Weiskopf, P. E. Burnout among teachers of exceptional children, Exceptional Children, 1980, 47(1), 18-23.

Wright, A. R. Local implementation of Public Law 94-142: Second year report of a longitudinal study. SRI International: Menlo Park, CA 1980.